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MBK Partnership/ North Ridge Estates Subdivision Responsible Party Removal Action Report Klamath Falls, Oregon TDD: 03-07-0011

Contract: 68-S0-01-01
February 2005

Region 10

START-2

Superfund Technical Assessment and Response Team

Submitted To: Daniel Heister, On-Scene Coordinator
United States Environmental Protection Agency
811 SW Sixth Avenue, Third Floor
Portland, Oregon 97204

ecology and environment, inc.
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February 28, 2005

Michael Szerlog, Deputy Project Officer
United States Environmental Protection Agency
1200 Sixth Avenue, Mail Stop ECL-116
Seattle, Washington 98101

RE: Contract No. 68-S0-01-01; Technical Direction Document No. 03-07-0011
MBK Partnership/North Ridge Estates Subdivision Responsible Party Removal Action Report

Dear Mr. Szerlog:

Enclosed please find the draft version of the responsible party removal action report for the MBK Partnership/North Ridge Estates Subdivision site located in Klamath Falls, Oregon.

If you have any questions regarding this submittal, please contact me at (206) 624-9537.

Sincerely,
ECOLOGY AND ENVIRONMENT, INC.

Jeffrey Fowlow
START-2 Project Leader

cc: Daniel Heister, EPA, Region 10, On-Scene Coordinator, Portland, Oregon
William Mehnert, START-2 Project Manager, E & E, Portland, Oregon

MBK PARTNERSHIP/ NORTH RIDGE ESTATES SUBDIVISION RESPONSIBLE PARTY REMOVAL ACTION REPORT
TDD: 03-07-0011

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LIST OF ACRONYMS

Acronym	Abbreviation
%R	percent recovery
ACM	asbestos containing material
AHERA	Asbestos Hazard Emergency Response Act
AOC	Administrative Order on Consent
bgs	below ground surface
BLWP	burial location work plan
CAB	concrete asbestos board
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DQOs	data quality objectives
DUP	duplicate
E & E	Ecology and Environment, Inc.
ED	electron diffraction
EDXA	energy dispersive X-ray analysis
EPA	United States Environmental Protection Agency
ESL	Environmental Services Laboratory
f/cc	fibers per cubic centimeter
FUDS	Formerly Used Defense Site
Geopotential	Geopotential, Inc.
GPR	ground penetrating radar
ISO	International Organization of Standardization
l/min	liters per minute
Lab/Cor	Lab/Cor, Incorporated
MAO	mutual agreement and order
MBK	Melvin Bercot Kenneth Partnership
MCP	mobile command post
mg/L	milligrams per liter
mg/kg	milligrams per kilogram
MS	matrix spike
Navy	United States Navy

LIST OF ACRONYMS (CONTINUED)

Acronym	Abbreviation
NIOSH	National Institute for Occupational Safety and Health
NON	Notice of Noncompliance
NRE	North Ridge Estates
NVL	NVL Laboratories, Incorporated
ODEQ	Oregon Department of Environmental Quality
ODHS	Oregon Department of Human Services
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration
OTI	Oregon Technical Institute
PA	Preliminary Assessment
PBS	PBS Engineering and Environmental
PCBs	polychlorinated biphenyls
PCM	phase contrast microscopy
PCME	phase contrast microscopy equivalent
PEL	permissible exposure limit
PPE	personal protective equipment
PRG	preliminary remediation goal
PSPs	personal sample pumps
PST	Pacific Strike Team
QA	quality assurance
QAPP	quality assurance project plan
QC	quality control
RA	removal action
RCA	Rose City Abatement
RCRA	Resource Conservation and Recovery Act
RI/FS	remedial investigation/feasibility study
RMCat	RMCat Environmental Services, Inc.
RP	responsible party
RPD	relative percent difference

LIST OF ACRONYMS (CONTINUED)

Acronym	Abbreviation
s/cc	structures per cubic centimeter
SAP	Sampling Analysis Plan
SRA	streamlined risk assessment
SSSPs	site-specific sampling plans
START	Superfund Technical Assessment and Response Team
TCLP	toxicity characteristic leaching procedure
TEM	transmission electron microscopy
USCG	United States Coast Guard
XRF	X-ray fluorescence
°F	degrees Fahrenheit

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1. INTRODUCTION

On July 27, 2001, the Oregon Department of Environmental Quality (ODEQ) was contacted by an excavation contractor that had uncovered 12 linear feet of asbestos-insulated pipe on a residential property located on North Ridge Drive in the North Ridge Estates (NRE) subdivision, near Klamath Falls in Klamath County, Oregon. The ODEQ approved an emergency asbestos removal of this material by an asbestos abatement contractor. On July 29, 2001, the ODEQ received a complaint regarding asbestos pipe insulation laying on the ground and exposed to the atmosphere along North Ridge Drive. On July 31, 2001, an ODEQ air specialist traveled to the excavation site at 3533 North Ridge Drive, approximately 3 miles northwest of Klamath Falls, Oregon (Figure 1-1). The ODEQ observed 180 linear feet of insulated pipe placed in two piles on the property. The ODEQ also observed a white platy material scattered throughout this and several other properties.

Samples of the white pipe insulation, the tar paper on the pipe, and the broken platy material were collected for analysis. Upon contacting the NRE subdivision developer on August 1, 2001, the ODEQ representative was told that the property was formerly a military base in the 1940s and that most of the buildings had been razed since that time. On August 3, 2001, the ODEQ approved the removal and disposal of the 180 linear feet of asbestos-insulated pipe by the same excavation contractor that notified the ODEQ. Analytical results received by the ODEQ on August 7, 2001, indicated that the white pipe insulation contained 90% asbestos; the tar paper contained up to 70% asbestos; and the platy material, believed to be concrete asbestos board (CAB), contained 10% asbestos. The NRE subdivision developer was cited by the ODEQ in a letter dated September 21, 2001, for removing 180 linear feet of asbestos containing pipe from the ground without notifying the ODEQ, as required by law, and for the open accumulation of asbestos containing material (ACM; ODEQ 2001).

The NRE subdivision developer, Melvin Bercot Kenneth Partnership (MBK), entered into a mutual agreement and order (MAO) with the ODEQ in May 2002 to remove all openly accumulated ACM at the NRE subdivision and either deed restrict or remove buried ACM and asbestos-containing pipe. The abatement contractor hired by MBK removed 50 tons of ACM and debris from the subdivision during the summer of 2002 (ODEQ 2004).

The ODEQ requested the assistance of the United States Environmental Protection Agency (EPA) in April 2003 after negotiations between the ODEQ and MBK ceased because they did not agree on the scope of necessary future remedial actions. The EPA and MBK signed an Administrative Order on Consent (AOC) on May 21, 2003, which required MBK to complete a removal action (RA) and streamlined risk assessment (SRA) under the EPA's oversight (EPA 2003a). The AOC stipulated several actions to be performed under the RA and SRA that included:

- Completing a surficial removal work plan and conducting a surficial cleanup of residential properties.
- Completion of a preliminary assessment (PA).
- Prepare sampling and analysis plans (SAPs) to support the RA.
- Prepare a burial location work plan (BLWP) and conduct a geophysical analysis to locate buried asbestos-insulated steam pipe on residential properties.
- Prepare an SRA work plan for asbestos in ambient air, indoor dust, and soil.
- Submit a final RA and SRA report.
- Evaluate the need for further sampling to determine the extent of potential hazardous substance contamination.

The EPA tasked Ecology and Environment, Inc. (E & E) under Superfund Technical Assessment and Response Team (START)-2 Contract Number 68-S0-01-01, Technical Direction Document Number 03-07-0011, to provide technical support and monitor the progress of a time-critical RA to be conducted by the responsible party (RP) at the MBK/NRE subdivision site. The START-2 documented removal activities, provided technical support to the EPA, conducted ambient air sampling, collected split air and soil samples for ACM analysis, completed a soil sampling survey for lead, and performed activity-based air sampling.

The RA site activities began in June 2003. Most of the RP removal activities were conducted from June to November 2003, although the localized removal of lead-contaminated soil, asbestos-insulated steam pipe, and limited ACM from the surface soil were completed in 2004. In October 2004, the RP also placed rock, soil, and/or permeable fabric over exposed areas of ACM on three properties subject to high levels of erosion. Selected photographs of site activities are included as Appendix A.

This report is organized into the following sections: Introduction (Section 1), Site Conditions and Background (Section 2), Quality Assurance/Quality Control (QA/QC; Section 3), Removal

Activities (Section 4), Sample Collection and Analysis (Section 5), Community Relations (Section 6), Health and Safety (Section 7), Summary of Removal Action and Streamlined Risk Assessment (Section 8), and References (Section 9).

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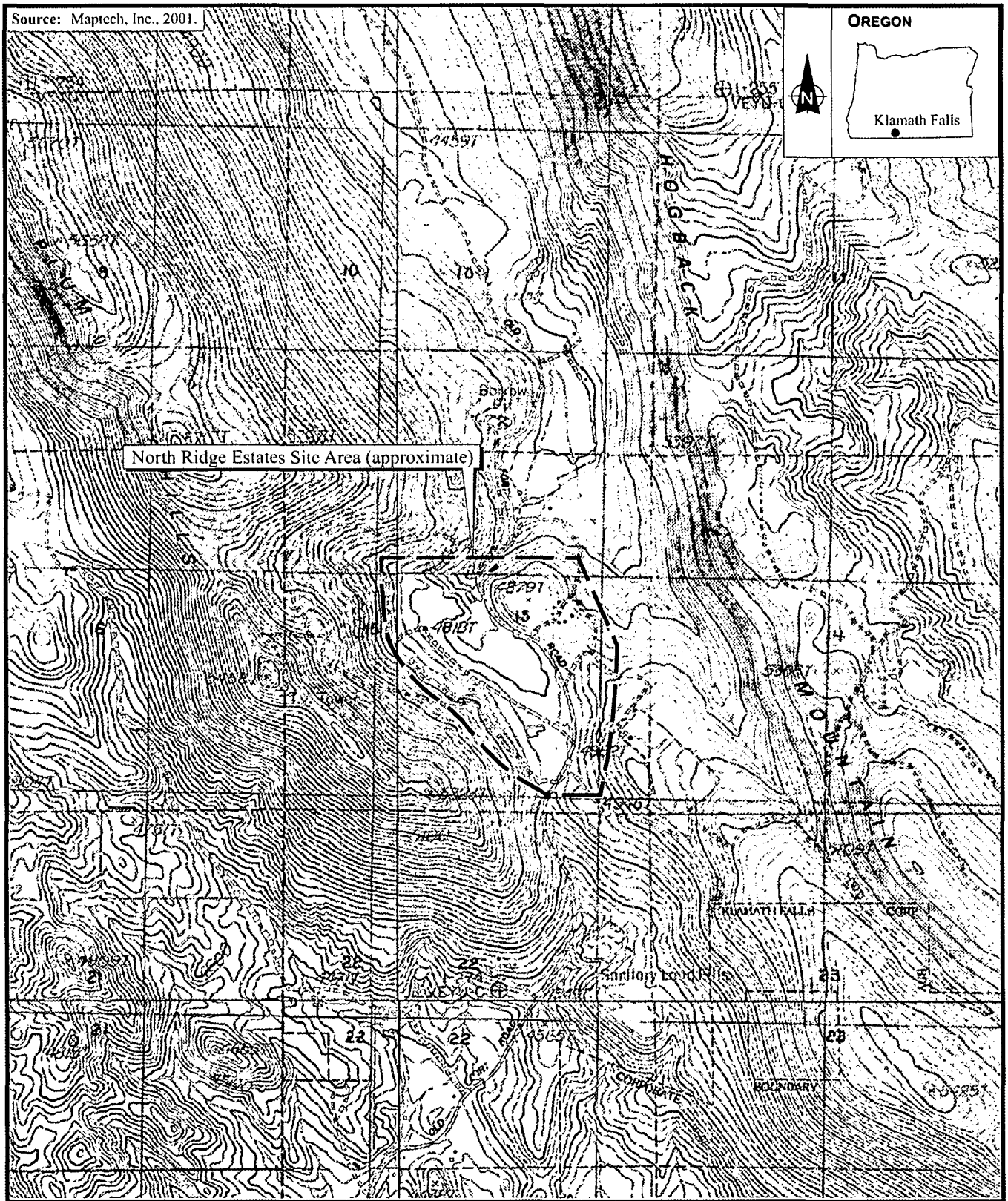

ecology and environment, inc. International Specialists in the Environment Seattle, Washington	MBK PARTNERSHIP/ NORTH RIDGE ESTATES Klamath Falls, Oregon	Figure 1-1 SITE LOCATION MAP		
	0 .25 .5 Approximate Scale in Miles	Date: 2-17-05	Drawn by: AES	10:START-2\03070011\fig 1-1

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2. SITE CONDITIONS AND BACKGROUND

2.1 SITE DESCRIPTION

Although the precise size of the MBK/NRE site is not known because subsurface soils have not been characterized, the portion of the NRE subdivision assessed during the RA lies in a valley and consists of approximately 140 acres that have been divided into dozens of developed and undeveloped residential lots near Old Fort Road, approximately 3 miles northeast of Klamath Falls, Oregon. The primary roads in the subdivision are Old Fort Road, North Ridge Drive, and Hunters Ridge Road (Figure 2-1).

A survey of properties for ACM fragments in soil conducted in 2002 by the Oregon Department of Human Services (ODHS) included 22 residences, nine vacant lots, and a memorial park. In addition to this portion of the NRE development west of Old Fort Road, several residential properties and a five-unit apartment building east of Old Fort Road have been identified with ACM in the surface soils and buried, asbestos-insulated steam lines. Land to the west, east, and north of the subdivision is zoned for forestry, animal husbandry, and agriculture. The United States Census Bureau lists 98 residents, including 14 children, within 0.5 mile of the subdivision (ODHS 2004).

The remaining buildings from the former military base include a warehouse presently utilized for contractor supply storage, the former brig which has been renovated into a five-unit apartment building, and several residences on Thicket Court which may have been utilized as medical staff housing (Figure 2-2; ODHS 2004). A guard shack for a military shooting range also remains standing east of the subdivision, but is being investigated separately by the ODEQ as a Formerly Used Defense Site (FUDS).

Although the other former military base structures at the site have been razed, the concrete foundations for many of these buildings remain intact. Some of the old roads from the base are still visible, although they are cracked and vegetation is growing through them. At the site, Old Fort Road and North Ridge Drive appear to follow approximately the same routes they did when the base was operating (ODHS 2004).

2.1.1 Climate

The climate in the Klamath Basin and surrounding mountains is influenced by air masses moving west from the Pacific Ocean, which are greatly influenced by the Coastal Range and Cascade Mountains. The continental air masses moving down from the western interior of Canada also affect the weather pattern and result in a much drier climate than western Oregon, which can have extreme temperatures. (NRCS 1985)

Average annual precipitation in the surrounding hills where the site is located ranges from 16 to 25 inches (NRCS 1985). About 44% of the moisture occurs in the winter with snowfall accounting for as much as 50% of the yearly precipitation (NRCS 1985). In Klamath Falls, the average annual maximum temperature is 60.2 degrees Fahrenheit (°F) and the average annual minimum temperature is 33.3°F (WRCC 2004). November, December, January, and February have the highest monthly rainfall averages of 2.06, 1.88, 1.79, and 175 inches, respectively (WRCC 2004).

2.1.2 Geology/Hydrogeology

The MBK/NRE site lies in the Klamath Basin east of the Sierra-Cascade Mountain province and west of the Basin and Range province. The well-drained soil at the site is made of gravelly material weathered from tuff, basalt, andesite, and some pumiceous ash. Bedrock is typically found at a depth of 25 to 40 inches below ground surface (bgs).

The Klamath Basin lies in a transitional zone between the Cascade Mountains and the Basin and Range Province which results in complex geology. Basin and Range-style faulting has divided the Klamath Basin into a series of small sub-basins (NRCS 1985).

A geothermal system within the Klamath Basin is evident by the presence of hot springs and hundreds of warm water wells in the Klamath Falls area. These waters are heated to 266°F before they move upward into the shallow groundwater system. Most of the thermal discharge moves outward from the fault conduits into permeable zones in basalts where it mixes with the cooler shallow groundwater. North of Klamath Falls, flowing artesian wells in the vicinity of Upper Klamath Lake and a large number of springs indicate that strong upward groundwater flow occurs in many areas around the Klamath Basin (NRCS 1985). The NRE site is not located within a floodplain (FEMA 1984).

2.2 SITE HISTORY, OPERATIONS, AND OWNERSHIP

Between 1943 and 1944, the United States Navy (Navy) purchased approximately 745 acres of land, including nearly 11 acres for utility easements, near Klamath Falls, Oregon, from private parties for

the Marine Recuperation Barracks. Records have not been located that indicate how much of the property was utilized by the Navy for the military base. Construction of the base began on January 27, 1944. The initial barracks construction plan included two-deck barrack buildings, a dispensary, a sick bay, laboratories, Navy and United States Marine Corps personnel quarters, a large mess hall, and a post exchange building (Figures 2-2 and 2-3). The base ultimately was composed of nearly 80 buildings designed to accommodate 5,000 marines (Figure 2-4). Personnel had staffed the base by April 30, 1944, and the first contingent of marine casualties arrived on May 27, 1944. The barracks officially closed on February 28, 1946, after the end of World War II in September 1945. The entire 745 acres were declared surplus property by the Navy in May 1946, and the land was transferred to the War Assets Administration for distribution. (Matthews 1992)

In March 1947, the State of Oregon acquired the property to be utilized for the Oregon Technical Institute (OTI), now known as the Oregon Institute of Technology, where vocational courses were offered beginning in the fall of that year (Matthews 1992). OTI vacated the facility in 1964 and has since established a campus closer to Klamath Falls, Oregon (Matthews 1992). The site, or portions of the site, were owned by various parties until MBK purchased much of the property in December 1977.

According to the public health consultation report published by the ODHS Superfund Health Investigation and Education Program, the present NRE subdivision developed by MBK encompasses an area of 422 acres, although many of the lots have not been sold.

2.3 REGULATORY AND ENFORCEMENT HISTORY

Prior to August 28, 1979, the EPA discovered demolition debris believed to contain ACM on the property currently owned by MBK. Because this demolition debris was exposed and uncontained on the MBK owned property, MBK was issued a compliance order by the EPA pursuant to Section 113 (a)(3) of the Clean Air Act regarding the requirement to develop a plan for disposal of ACM contained within demolition debris on September 17, 1979 (EPA 1979). The compliance order stated that MBK "failed to properly strip asbestos containing materials from the insulation pipes when the pipes became exposed as required..." (EPA 1979). It further stated that "The company caused or permitted asbestos containing waste material to remain exposed, uncontained and undisposed of at the demolition site" (EPA 1979). The compliance order required MBK to submit a plan addressing the ACM from "...the present demolition operation and all material remaining from previous demolition" (EPA 1979). The plan was to provide the EPA with a detailed description of the ACM disposal site (EPA 1979). After proper disposal of the ACM, the order further required MBK to register the inactive waste site with Klamath County

(EPA 1979). In 2003, the EPA and the START-2 were unable to identify any deed restrictions for ACM disposal sites at NRE.

On April 13, 1993, a preliminary inspection, completed under the Defense Environmental Restoration Program, found that there were no hazardous conditions at the former Marine Recuperation Barracks. The memorandum stated that only two buildings, the warehouse and former brig, remained at the site. There is no reference to asbestos or ACM in the memorandum (USACE 1993).

The ODEQ became aware of asbestos-insulated steam pipe at the site when it was unearthed by a contractor during excavation activities associated with home construction and development of the property. After the discovery of ACM in late July 2001, the ODEQ issued MBK a Notice of Noncompliance (NON; AQ-ERB-01-7715) on September 21, 2001, for the illegal removal and open accumulation of friable ACM (ODEQ 2001).

In April 2002, MBK entered into a MAO with the ODEQ which required a survey of all properties currently or previously owned by the partnership for the presence of ACM and required the removal of openly accumulated ACM (ODEQ 2002). Additional requirements for MBK included either removing buried ACM or placing a deed restriction on properties known to have buried ACM pursuant to the 1979 compliance order and on the properties with buried asbestos containing pipe. Approximately 50 tons of ACM were collected from the site and disposed by Malot Environmental, Inc., an MBK contractor, in 2002.

In March 2003, the ODEQ and ODHS determined that the friable asbestos not removed from the site in 2002 continued to pose a significant public health hazard (ODEQ 2004). The ODEQ immediately began negotiations with MBK to prepare a remedial investigation/feasibility study (RI/FS) to include a site characterization, human health risk assessment, and remedy identification. MBK and the ODEQ were unable to agree on the scope of the RI/FS; therefore, the Region 10 EPA was consulted to lead a RA or oversee the RP's efforts in performing a RA. On May 21, 2003, MBK entered into an AOC with the EPA for a RA and SRA (EPA 2003a). Initial site activities for the RA, which involved the hand collection of surficial ACM from all residential lots at the site, commenced on June 10, 2003. Activities conducted by MBK and the EPA during the RA are discussed in Section 4.

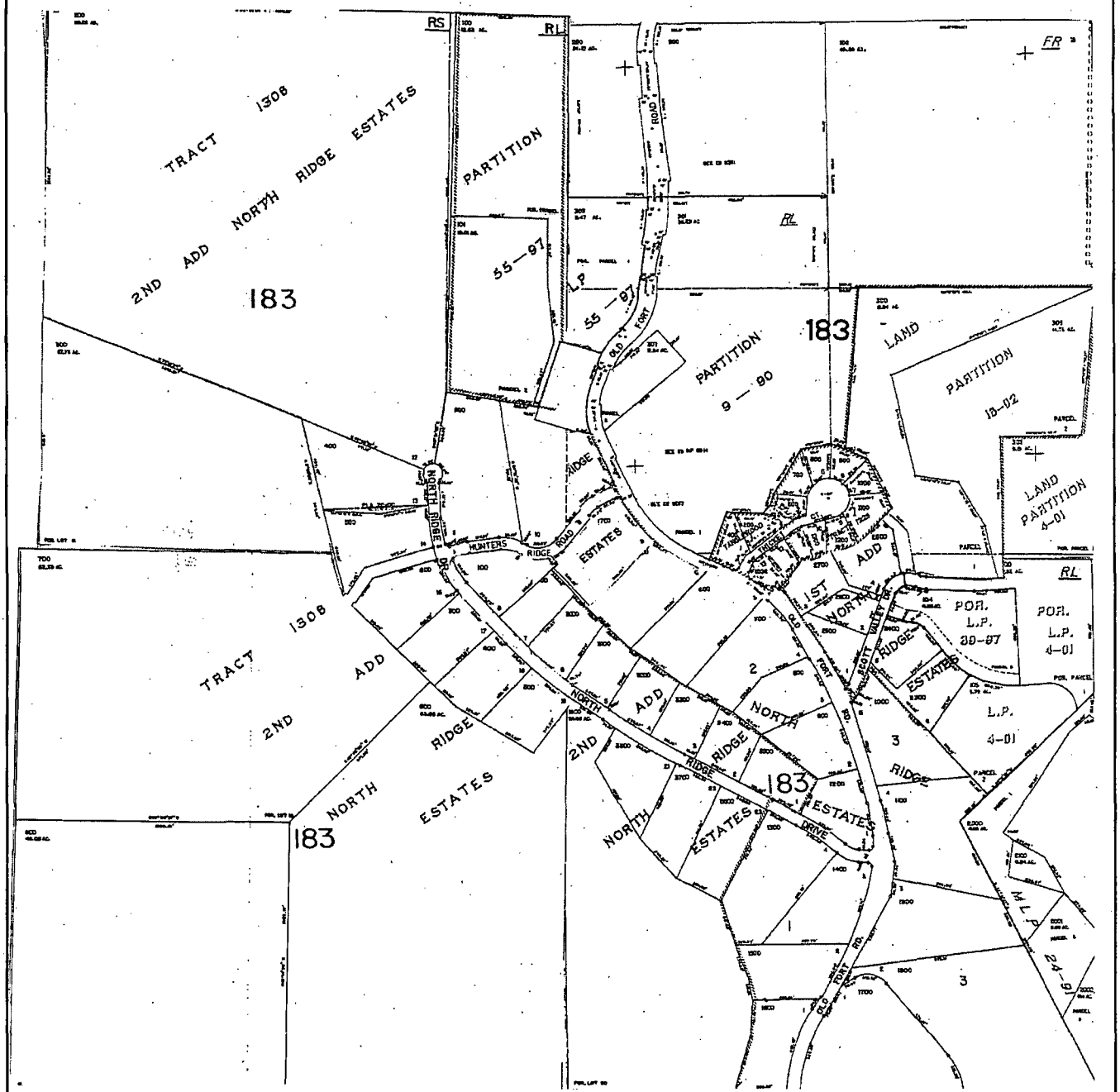

Figure 2-1

MBK Partnership / North Ridge Estates

North Ridge Estates Plat Map

Klamath Falls, Oregon

Approximate Scale

0 350 700 1050 Feet

Job Id: 001281.0293.01RS

Date: 02/02/2005

Developed by: avh

Map Source Information: The Oregon Map 2004.

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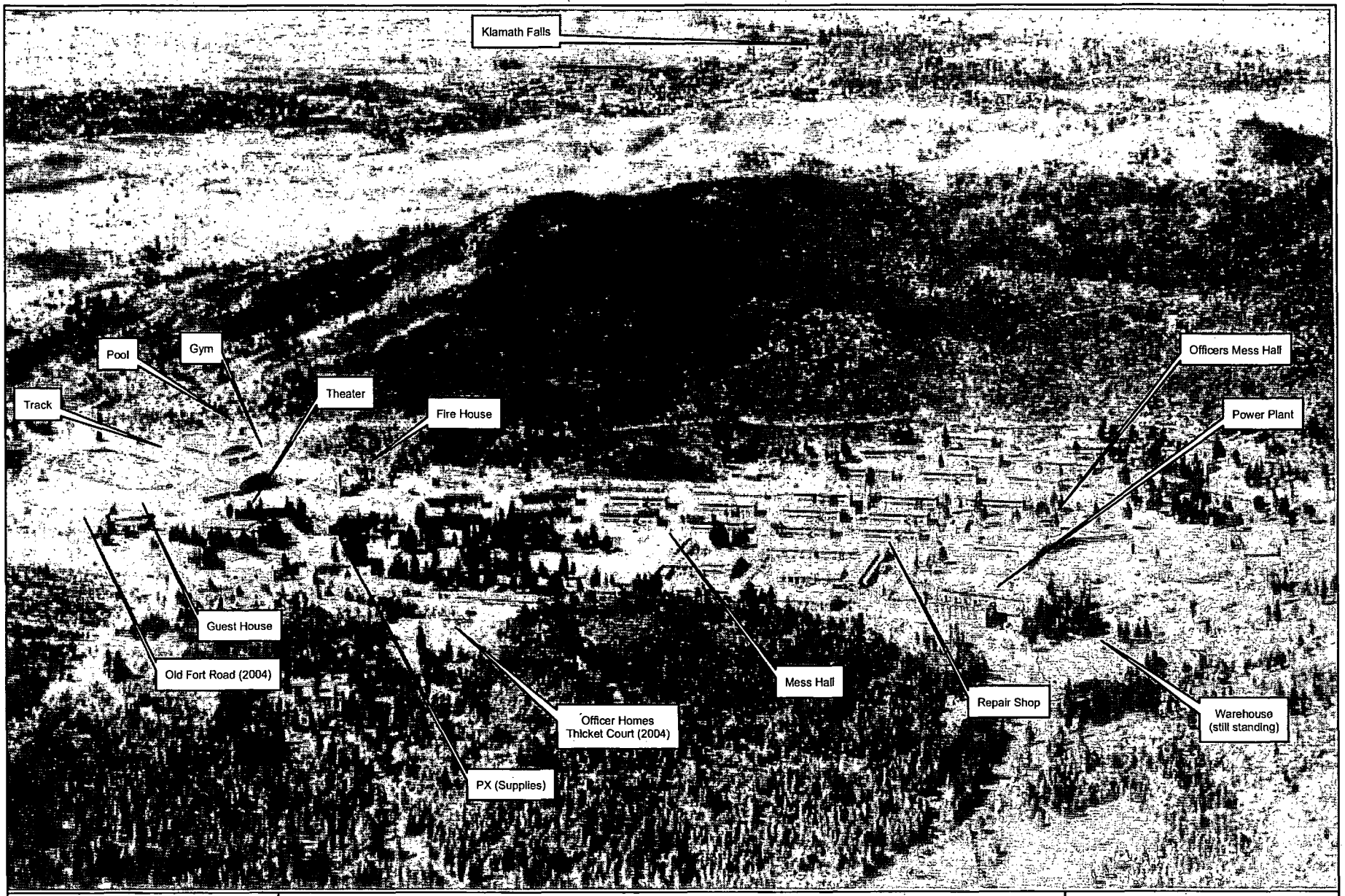

Figure 2-2

MBK Partnership / North Ridge Estates

Marine Base - View to the West

Klamath Falls, Oregon

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Seattle, Washington

Approximate Scale

0 230 460 590 Feet

Job Id: 001281.0293.01RS

Date: 02/02/2005

Developed by: avh

Map Source Information: Branowski 1945.

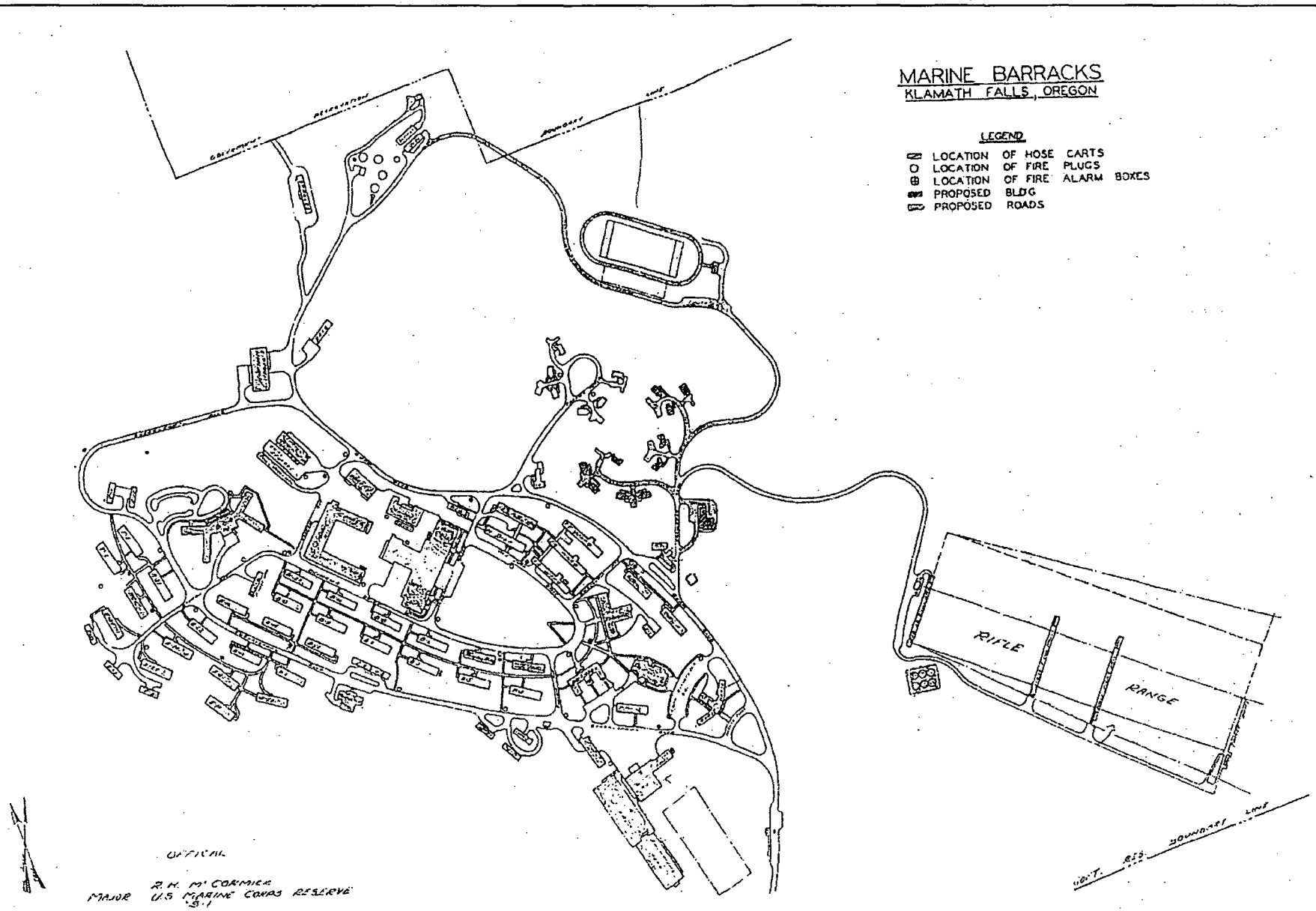

Figure 2-3

MBK Partnership / North Ridge Estates

Marine Barracks Plan

Klamath Falls, Oregon

ecology and environment, inc.
International Specialists in the Environment
Seattle, Washington

Approximate Scale
0 185 370 555 Feet

Job Id: 001281.0293.01RS

Date: 02/02/2005

Developed by: avh

Map Source Information: PBS 2003.

Figure 2-4

MBK Partnership / North Ridge Estates

Aerial View of the Former Base

Klamath Falls, Oregon

Approximate Scale - Feet

0 875 1750 2625

Job Id: 001281.0293.01RS

Date: 02/02/2005

Developed by: avh

Map Source Information: Messina 1968.

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Seattle, Washington

3. QUALITY ASSURANCE/QUALITY CONTROL

QA/QC data are necessary to determine precision and accuracy and to demonstrate the absence of interferences and/or contamination of sampling equipment, glassware and reagents. Specific QC requirements for laboratory analyses are incorporated in the *Contract Laboratory Program Statement of Work for Inorganic Analyses* (EPA 2004). These QC requirements, or equivalent requirements, found in the analytical methods were followed for analytical work on the project. This section describes the QA/QC measures taken and provides an evaluation of the usability of data presented in this report. Data validation memorandum for the samples collected by the START-2 are provided in Appendix B.

All samples were collected following the guidance of the site-specific sampling plans (SSSPs; E & E 2003a and 2004) and the START-2 quality assurance project plan (QAPP; E & E 2003b) for field activities. The START-2 subcontracted NVL Laboratories, Inc. (NVL), in Seattle, Washington, to perform lead analyses by EPA SW-846 method 7420. Asbestos analyses were performed using the following methods: International Organization of Standardization (ISO) Method 10312; National Institute for Occupational Safety and Health (NIOSH) Method 7402; Modified EPA-II Method; EPA-600-R-93/116; Method 68-02-3266, and Method 40 Code of Federal Regulations Chapter 1 (1-1-87, Part 763, Subpart F, Appendix A) analyses were performed by Lab/Cor, Inc. (Lab/Cor), in Seattle, Washington, and/or Pacific Rim Environmental, Inc., also in Seattle, Washington.

Data from the START-2 subcontracted commercial laboratories were reviewed and validated (when applicable) by a START-2 chemist. Data qualifiers were applied as necessary according to the following guidance:

- EPA (1990) *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures*; and
- EPA (2004) *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.*

In the absence of other QC guidance, method-specific QC limits were also utilized to apply qualifiers to the data.

3.1 SATISFACTION OF DATA QUALITY OBJECTIVES

The following EPA (EPA 2000) guidance document was used to establish data quality objectives (DQOs) for this project:

- *Guidance for the Data Quality Objectives Process* (EPA QA/G-4), EPA/600/R-96/055.

The EPA On-Scene Coordinator (OSC) determined that definitive data without error and bias determination would be used for the sampling and analyses conducted during the field activities. The data quality achieved during the fieldwork produced sufficient data that met the DQOs stated in the SSSPs (E & E 2003a and 2004). A discussion of accomplished objectives is presented in the following subsections.

3.2 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

QA samples included media blank samples. Rinsate blank samples are not required as all samples were collected using dedicated equipment. Trip blank samples are not required as volatile organic compounds were not analyzed for this project. Media blank samples are discussed in subsection 3.4.3. QC samples included matrix spike (MS)/duplicate (DUP) samples for inorganic analyses at a rate of one MS/DUP per matrix per analysis.

3.3 PROJECT-SPECIFIC DATA QUALITY OBJECTIVES

The laboratory data were reviewed to ensure that DQOs for the project were met. The following describes the laboratories' ability to meet project DQOs for precision, accuracy, and completeness and the field team's ability to meet project DQOs for representativeness and comparability. The laboratory and the field team were able to meet DQOs for the project.

3.3.1 Precision

Precision measures the reproducibility of the sampling and analytical methodology. Laboratory and field precision is defined as the relative percent difference (RPD) between duplicate sample analyses. The laboratory duplicate samples or MS/DUP samples measure the precision of the analytical method.

The RPD values were reviewed for all commercial laboratory samples. All laboratory duplicate sample results were within QC limits. The DQO for precision of 85% was met.

3.3.2 Accuracy

Accuracy measures the reproducibility of the sampling and analytical methodology. Laboratory accuracy is defined as the MS percent recovery (%R) for all analyses. The MS %R values were reviewed for all MS analyses. All MS sample results were within QC limits. The project DQO for accuracy of 85% was met.

3.3.3 Completeness

Data completeness is defined as the percentage of usable data (usable data divided by the total possible data). All data were reviewed for usability. No sample results were rejected, therefore the project DQO for completeness of 90% was met.

3.3.4 Representativeness

Data representativeness expresses the degree to which sample data accurately and precisely represent a characteristic of a population, parameter variations at a sampling point, or environmental condition. The number and selection of samples were determined in the field to account accurately for site variations and sample matrices. The DQO for representativeness of 85% was met.

3.3.5 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared to another. Data produced for this site followed applicable field sampling techniques and specific analytical methodology. The DQO for comparability was met.

3.4 LABORATORY QUALITY ASSURANCE/QUALITY CONTROL PARAMETERS

The laboratory data also were reviewed for holding times/temperature, laboratory blank samples, and media blank samples. These QA/QC parameters are summarized below. In general, the laboratory and media QA/QC parameters were considered acceptable.

3.4.1 Holding Times/Temperature

All samples were maintained with the temperature QC limits and were analyzed within QC holding time limits.

3.4.2 Laboratory Blanks Samples

All laboratory blanks met the frequency criteria. No analytes were detected in any analyses that affected sample results.

3.4.3 Media Blank Samples

The media blanks were submitted at a frequency of one or two per batch of cassette filters for asbestos analyses. No asbestos fibers were detected in any media blanks except the phase contract microscopy (PCM) blanks J067781 and J067756, each with two total fibers; no action was taken as the laboratory used the average of the two blanks to reduce the gross counts of the test samples.

3.5 X-RAY FLUORESCENCE FIELD SCREENING

The START-2 collected a total of 150 soil samples and screened them in the field for the presence of lead using a Niton® X-ray fluorescence (XRF) spectrometer. A total of 19 soil samples were submitted to a subcontracted commercial laboratory for confirmation analysis with EPA Method 7420.

To satisfy the QC elements using the XRF, the data were documented and statistically compared to the commercial laboratory results to assess comparability. According to EPA guidance, a minimum correlation coefficient of 0.700 is necessary to consider field analytical results acceptable when compared with laboratory confirmation results. The correlation coefficient for the agreement between the XRF screening results and confirmation analytical results for lead was 0.99, which is significantly better than the EPA QC requirement.

4. REMOVAL ACTIVITIES

Field activities for the RA were initiated on June 10, 2003, in response to the immediate risk to the public and the environment posed by the presence of ACM in the surface soil at the site. The RP subcontracted PBS Engineering and Environmental (PBS) of Portland, Oregon, to act as the general consultant for removal activities. Rose City Abatement (RCA) was subcontracted to remove, by hand, the surficial ACM at the site. This section describes the objectives and strategies of the RA (subsection 4.1), provides a chronology of events that occurred over the course of the RA (subsection 4.2), and discusses the actions taken during the RA (subsections 4.3).

4.1 REMOVAL OBJECTIVES AND STRATEGIES

The primary purpose of the RA was to reduce the risk to human health and the environment posed by the release of friable asbestos and other Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) hazardous substances in accordance with the National Contingency Plan (40 CFR Part 300). The objectives of the RA were to mitigate the immediate threat to the residents and other visitors to the site posed by friable asbestos in soil; to characterize the site; and to design and implement a permanent remedy. Developed residential properties are referred to in this report with a one or two letter identifier to protect the privacy of the residents. MBK-owned lots referred to in this report are identified with "MBK" followed by a single letter identifier (Figures 5-1, 5-2, and 5-3).

To meet these objectives, the START-2 assisted the EPA OSC in monitoring the performance of specific tasks conducted by the RP's subcontractors. The RP contractors' scope of work was divided into the following two phases of work, the tasks of each phase are included below:

Phase 1: Tasks for the Time-Critical RA

- Prepare and submit to the EPA a surficial removal work plan;
- Prepare and submit to the EPA a health and safety plan;
- Mobilize and set-up temporary office trailers with electricity and telephone service;
- Conduct the surficial RA;

- Prepare and submit a BLWP;
- Conduct geophysical analysis to locate buried abandoned steam pipe at site;
- Prepare and submit a SAP;
- Conduct sampling of residential soils, homes, and ambient environment;
- Complete a PA for the site;
- Stabilize and/or secure burial locations; and
- Arrange for the proper transportation and disposal of site wastes to approved disposal facilities in accordance with applicable regulations.

Phase 2: Field Investigation and Risk Assessment

- Conduct sampling for the SRA; and
- Prepare and submit a SRA report.

The START-2 scope of work for the RA included the following activities:

- Provide the EPA with technical support during the RP's implementation of the RA;
- Conduct various media sampling as determined by the OSC during the course of the RA;
- Document any threat or potential threat to public health or the environment posed by the site and ensure the public's safety during removal activities;
- Coordinate with federal, state, and local government during the entire course of the RA;
- Document site activities with photographs;
- Maintain a site log; and
- Prepare the final RA report.

4.2 CHRONOLOGY OF EVENTS

The following is a list of the significant events that occurred during the RA:

- **05/21/03:** The EPA OSC issues an action memorandum for the NRE site to perform an EPA-led removal of asbestos at the site. The EPA-led removal is not conducted because the RP signs the AOC (EPA 2003b).
- **05/21/03:** The EPA and representatives of MBK sign an AOC for conducting the RA and SRA. The order states that work to be performed will include the surficial removal of ACM from site soils (EPA 2003a).

- **06/11/03-10/17/03:** The EPA, the START-2, PBS, and RCA initiate the RA at the site. RCA conducts the ACM removal under the supervision of a PBS project manager. RCA is tasked to pick up ACM that is larger than 1 inch in diameter. This may include roofing material, insulation, floor tile, CAB, and other suspect pieces. PBS conducts personal asbestos air sampling in compliance with applicable Occupational Safety and Health Administration (OSHA) regulations for the RCA workers. The group begins removing ACM on the warehouse property, owned by MBK, because access agreements to some of the residential properties have not been obtained.
- **06/17/03–06/20/03:** PBS crew collects "baseline" composite soil samples to assess conditions in the surface soils prior to the surficial removal of the ACM. Their plan calls for the collection of 10 composite samples collected from a grid laid over the site area.
- **07/06/03:** Two members of the United States Coast Guard (USCG) Pacific Strike Team (PST) arrive at the site to monitor the overall health and safety for all personnel working at the site. They also assist in collecting meteorological data for the EPA.
- **07/22/03:** Geopotential, Inc. (Geopotential), an RP-subcontracted company, arrives at the site to conduct a Ground Penetrating Radar (GPR) and/or magnetometer survey at the site to locate the underground steam lines once utilized to heat the buildings on the base. Identifying the location of the asbestos-insulated steam lines is one of the tasks specified in the AOC.
- **07/23/03:** Wayne Berman, Ph.D., a consultant for the RP, conducts a meeting at the ODEQ office in Klamath Falls with the EPA and the ODEQ, to explain a method for asbestos soil collection and analysis he has developed. Dr. Berman asserts that the risk to residents living at the site for asbestos may be determined by "elutriating" processed soil samples from the site and measuring a specific range of respirable asbestos particles. Two community meetings are conducted in the evening at residents' homes with the EPA, the ODEQ, and residents in attendance. The meetings address site progress and future actions.
- **07/24/03:** Exploratory trenching is conducted by Tomahawk Construction, an asbestos abatement contractor, where Geopotential notes potentially buried pipe. Steam pipe covered with asbestos wrap is identified at some of these test pit locations. A map of the buried steam pipe locations is to be developed by PBS.
- **07/25/03:** Twelve surface soil samples are collected by the PST and the START-2 from three sites where electrical transformers may have been situated at the military base. Screening of all the samples indicates that polychlorinated biphenyls (PCBs) are not present at detectable concentrations.
- **07/28/03-08/01/03:** The START-2 screens site soils for lead content utilizing an XRF spectrometer. Approximately 150 surface soil samples are collected from 35 properties for screening analysis with 10% of the samples submitted for confirmation analysis.
- **07/30/03-08/01/03:** Composite samples collected in June by PBS for the baseline study are processed by PBS in accordance with a SAP work plan prepared by Dr. Berman. The sample preparation occurs in the MBK warehouse building on site.
- **08/03/03:** The PST brings a mobile command post (MCP) to the site. The MCP provides a base of operations for the EPA, PBS, and the START-2 to conduct administrative

duties and to store non-expendable air sampling equipment. Power and a phone line to the MCP are provided by the RP. The MCP replaces the small trailer previously provided by the RP that was not large enough to store equipment and provide a meeting space.

- **08/14/03:** PBS informs the EPA that the abatement crews have removed approximately 6,800 pounds of ACM from the site at this time.
- **08/19/03 :** The START-2 begins collecting ambient air samples from an air monitoring network of six stations established throughout the site.
- **08/19/03-09/05/03:** PBS collects indoor and outdoor air samples from 22 residences as specified in the SAP. The START-2 collects split samples at six of the residences by establishing air samplers adjacent to the RP's samplers for ISO Method 10312 asbestos analysis.
- **09/15/03-09/19/03:** The START-2 conducts biased asbestos surface soil sampling at 22 residences. All sample points are documented in a logbook and geo-referenced utilizing a GPS unit. An asbestos soil sample map is created from this data.
- **09/22/03-9/24/03:** The START-2 documents steam pipe burial locations with a GPS unit as directed by the EPA OSC.
- **09/23/03-9/25/03:** PBS processes soil samples from "hot-spot" locations for elutriator analysis to be utilized in the RP-funded risk assessment.
- **09/26/03-10/2/03:** The START-2 processes the 22 residential composite soil samples collected earlier in the month via the method outlined in the RP's SAP. Twelve of the 22 samples are submitted for "elutriation" to capture respirable asbestos particles on air filters by the ISO Method 10312. The filters are submitted to a commercial laboratory and analyzed.
- **10/06/03-10/16/03:** PBS, the EPA OSC, and PST oversee the removal of concentrated areas of ACM in surface soils, known as hot spots, at four residential properties. RMCat Environmental Services, Inc. (RMCat) is the excavation abatement contractor hired by the RP to remove the ACM in soils with an excavator. RMCat removes approximately 77 tons of ACM for disposal at the Klamath County landfill, located 1 mile south of the site.
- **10/21/03-10/23/03:** Excavation of suspected piles of buried debris is conducted to assess the presence of ACM. The areas were identified due to their unnatural topographic shape. The EPA and PBS agrees upon 13 locations to be explored throughout the site. Most of the piles contain ACM within the top 3 feet.
- **10/30/03:** A community meeting is held by the EPA at the Klamath County Extension Center to discuss the removal activities completed and to explain the risk assessment process.
- **10/31/03:** The START-2 and the EPA OSC collect eight discrete soil samples from locations specified by an EPA Site Assessment Manager. The samples are submitted for ACM analysis. Results are to be utilized in a site investigation report to be prepared by the EPA contractor, Weston Solutions, Inc.

- **11/4/03-11/6/03:** PBS collects dust samples from the carpet of 21 residences following a procedure outlined by Dr. Berman. The EPA does not collect splits of these samples. The preparation of these samples for analysis has not been finalized since there is no approved method.
- **04/26/04-4/29/04:** Based on the results of the lead survey conducted by the START-2 in July 2003, the START-2 conducts a second phase of concentrated grid sampling on the MBK-C lot where elevated levels of lead were detected.
- **05/17/04-05/18/04:** The START-2 collects GPS readings with the EPA OSC to document the location of additional ACM that has resurfaced in site soils after the 2003 removal and documents the location of ACM on MBK-owned lots which were not addressed in 2003.
- **07/19/04-7/23/04:** The EPA and the START-2 conduct activity-based sampling on the MBK-A, MBK-B, and MBK-C lots. These activities are meant to mimic various actions (and resultant exposures) that residents may undertake at the site. The scenarios to be examined include a child playing in the dirt, a resident rototilling his yard, and a resident using a weed trimmer. While START-2/EPA conduct these actions with respiratory protection, personal air sampling pumps are worn to collect the dust generated by the specific activity. An upwind air sampling pump is deployed near the area of activity to collect a background air sample. The personal sample pump air filters are screened on site via PCM analysis for dust loading so that the study may be adjusted to produce valid (non-overloaded) samples. The air samples are then submitted to an off-site laboratory for transmission electron microscopy (TEM) analysis to confirm asbestos content.
- **10/05/04-10/07/04:** PBS and RMCat conduct stabilization activities at select locations throughout the site to reduce the impact of water erosion in areas of concentrated ACM in soils. Stabilization activities involved the placement of a geosynthetic fabric, rock, and/or soil at lot C, lot F, and MBK warehouse properties. Steam pipe that is at the ground surface is also removed (and disposed) from lot A and the lot on the southeast corner of Old Fort Road and Thicket Court properties.
- **10/06/04-10/07/04**: Lead-contaminated soil is excavated from the MBK-C lot where elevated levels of contamination were delineated by the START-2 in July 2004. An area approximately 25 feet in diameter and 1.5 to 2 feet deep is excavated. Four confirmation soil samples are collected by PBS in the excavated area for lead analysis. A composite sample of the lead-contaminated soil is also collected by PBS for toxicity characteristic leaching procedure (TCLP)-lead analysis for proper disposal.

4.3 REMOVAL ACTIONS

A time-critical RA was initiated at the site on June 10, 2003, to address the imminent hazards to human health. The RA was funded by the RP and oversite of the activities were conducted by the EPA and the START-2. The RP hired asbestos abatement contractors to remove the ACM from the surface soils that had not been addressed in the 2002 removal. The contractors combed the site to remove pieces as small as 1 inch in diameter. Excavation equipment was also utilized to remove concentrated, localized

areas of ACM. Another priority of the removal was to locate buried asbestos-insulated steam pipe at the site because sections of the pipe were known to have been excavated during residential development. The locations were mapped during the removal to prevent further unintended exposure to the asbestos insulation. The RP was also required to stabilize and cover the burial piles at the site where concentrated ACM was readily exposed to the air by erosion. The RP addressed these areas under the RA by filling holes in the piles with soil and covering ACM with rock, synthetic fabric, and/or soil.

4.3.1 Surficial Removal of ACM

The immediate concern at the site was the presence of ACM such as roofing material, CAB siding, floor tiles, and insulation in the site surface soils remaining after the 2002 gross removal of debris conducted by the RP under the MAO with the ODEQ. Approximately 50 tons of material were removed under the 2002 removal but smaller pieces of ACM remained in the surface soils throughout the footprint of the former military base. PBS, the RP consultant, submitted the surficial removal work plan as directed in the EPA AOC in early June 2003. The EPA and the START-2 mobilized to the site on June 10, 2003, to monitor removal activities performed by the RP's abatement contractor, RCA.

Under the direction of PBS, a four-person crew from RCA initiated surficial ACM removal on the MBK-owned warehouse property, since access to the many of the residential properties had not been granted at that time. Workers, trained in the identification of ACM, removed CAB, roofing material, vinyl floor tile with mastic, and pipe insulation from site soils. The ACM was placed in large clear plastic bags that were labeled with asbestos warnings. PBS fitted RCA personnel with personal sampling pumps (PSPs) to monitor worker exposure to airborne fibers as required by OSHA regulations. Workers also wore respiratory protection while conducting the surficial removal. PBS analyzed the PSP filters as required under the NIOSH 7400 PCM method to determine if the exposure level to the workers exceeded the permissible exposure level (PEL) of 0.1 fibers per cubic centimeter (f/cc). The asbestos PEL is the level at which workers must wear respiratory protection while conducting abatement work in an 8-hour work day as mandated by OSHA.

After several weeks of personnel monitoring, it was determined by PBS that the asbestos levels were consistently below the PEL, therefore, workers could conduct the surficial removal work without respiratory protection. Although respiratory protection was no longer required for surficial removal work, the EPA did require PBS to conduct additional air sampling and wear respiratory protection for each new task involving work with ACM (e.g., excavation of soil), as stated in the PBS health and safety

plan. Workers also wore dermal protection, such as Tyvek® coveralls and gloves, while conducting removal activities.

As the surficial ACM removal progressed, it became clear that the meticulous nature of the task would require more personnel from RCA. At the height of the surficial ACM removal, approximately 15 personnel from RCA were on site surveying the soil for ACM. In order to increase confidence levels that ACM was removed from site soils as thoroughly as possible, PBS and RCA conducted the surficial ACM removal on a lot-by-lot basis. As most of the properties did not have fences to delineate properties, the PBS supervisor utilized marking tape to separate the lots. The RCA contractors worked in a group and surveyed each property by beginning on one side and making overlapping passes until reaching the opposite side. Surveyed properties ranged in size from a few acres up to several dozen acres. At the conclusion of the surficial removal on October 17, 2003, 7 tons of ACM were removed from 25 developed residential properties and several MBK-owned lots (PBS 2004b).

4.3.1.1 Hot Spot Removal

In addition to the site-wide removal of surficial ACM, areas of concentrated ACM debris, referred to as hot spots, were identified on nine properties. To expedite the removal of this material, much of the ACM was excavated in July 2003 and October 2003. During excavation of the hot spots, workers were required to wear respiratory protection and water was sprayed on the material as it was loaded for disposal to suppress dust and airborne particulates. According to PBS records, approximately 77 tons of excavated material were removed from the hot spot locations for disposal as contaminated waste material at the Klamath County landfill (PBS 2004b). The hot spot removal locations are provided in the PBS's *Report of Surficial Removal and Burial Location Actions* (PBS 2004b).

4.3.2 Burial Pile Exploration

Under the EPA AOC, the RP was required to determine the locations of suspect ACM burial piles on the site and conduct subsurface investigations to characterize the content of the piles. These piles are located where some of the demolition debris was placed when the former military base buildings were razed. The investigation likely did not identify all of the burial locations as the terrain has been altered greatly since the base was in operation. In general, areas with unnatural topography such as mounds or high concentrations of surfacing ACM debris were investigated as part of the burial pile investigation.

From October 21 to 23, 2003, the EPA, PBS, and the RP's excavation subcontractor, RMCat, investigated 13 suspected burial locations by excavating 35 test pits (PBS 2004b). Based on the limited burial pile investigation conducted at the site, eight burial piles on nine residential properties were identified as containing ACM material. According to the PBS report, the full horizontal and vertical extent of the piles was not determined (PBS 2004b).

4.3.3 Buried Steam Pipe Assessment

The ODEQ was notified in July 2001 that piping covered with asbestos insulation had been excavated on a residential property in North Ridge Estates. It was later determined that the pipe was insulated steam pipe that originated from a coal-powered boiler on the north side of the former military base. The buried steam pipe likely heated nearly all 80 buildings on the base. The ODEQ subsequently tested the insulation from the steam pipe and found that it contained 90% amosite asbestos (ODEQ 2001). Although the insulated pipe did not pose a threat if it remained buried, the on-going residential development at the site increased the probability of steam pipe being excavated, thereby exposing workers and residents to airborne asbestos.

The RP agreed under the EPA AOC to conduct a geophysical survey at the site to locate the buried steam pipe. The main lines of the steam pipe were reportedly 4 inches in diameter surrounded by wooly asbestos-containing insulation that was wrapped in asbestos-impregnated paper and covered with 8- to 12-inch diameter corrugated steel.

Geopotential, a geophysical surveyor, conducted the buried steam pipe survey for two weeks in July 2003. Prior to the fieldwork, PBS compiled a base map indicating the approximate locations of some of the buried steam lines utilizing historical photos, plans, and other documents. Although GPR had been initially proposed as one technology to locate the steam pipe, the heterogeneous soil conditions, and possibly buried debris, hindered the ability of the GPR equipment to provide useable information. Instead, a magnetometer, a highly sensitive metal detector, was utilized by the surveyor. Several thousand feet of buried steam pipe were located during the survey. The survey also indicated that some of the steam lines appeared to have breaks in them (PBS 2004b). These breaks may have occurred through various construction activities at the site over the past several decades, including the installation of water supply lines and septic disposal lines. Because of the construction activities that have occurred at the site, it is unknown if all of the buried asbestos insulated pipe has been identified.

To confirm the presence of buried steam pipe along the routes identified by Geopotential, several test pits were excavated. The presence of steam pipe was verified when corrugated steel which wrapped

the insulated piping was observed at depths ranging from 2 to 6 feet bgs. Although the pipe may have originally been buried at a uniform depth, the extensive earth work that has been conducted at the site is likely responsible for the steam pipe depth ranging from 2 to 6 feet bgs.

4.3.4 ACM Burial Site Stabilization

Since several ACM burial locations were either concentrated ACM debris piles or areas where concentrated ACM was surfacing along a steep embankment, the EPA required the RP to stabilize these locations which were subject to rapid erosion. Seven burial locations were identified by PBS and the EPA that required stabilization. Six of the seven locations were situated on residential properties while one was located to the north of the warehouse on an MBK-owned lot. Stabilization methods ranged from the placement of top soil, water permeable fabric, 6-inch minus rock; the installation of water diversion piping; and formally documenting the locations for future actions at the site. All seven ACM burial locations are described with the corresponding time-critical removal remedy in the *Burial Pile Stabilization Report* completed by PBS in November 2004 (PBS 2004a).

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5. SAMPLE COLLECTION AND ANALYSIS

Prior to and during the RA at the MBK/NRE site, a number of samples were collected by both the RP and the START-2. Samples of various matrices were collected fro a number of reasons including assessing the extent of asbestos and lead contamination in site soils, assessing the levels of asbestos in indoor and outdoor air, and assessing the risk associated with conducting routine activities in asbestos-contaminated soil.

PBS conducted soil sampling for asbestos content prior to the surficial removal of ACM to assess the levels of respirable asbestos fibers in the soil. Composite samples were collected from residential lots by PBS and the START-2 as detailed in subsections 5.1.1 and 5.1.2. As directed by the the EPA OSC, PBS also collected soil samples from localized areas of concentrated ACM to assess if these areas release more respirable fibers than soils at the residential lots. These samples are discussed in subsection 5.1.1.

PBS collected indoor and outdoor asbestos air samples at 22 residences to evaluate if asbestos released from ACM in site soils is tracked into homes and re-suspended in indoor air. The indoor and outdoor air samples at each residence were collected simultaneously to measure and compare if any variances exist between the indoor and outdoor air quality. The START-2 collected air samples at six of the 22 residences sampled by PBS. The sampling and analytical results assessing indoor air quality are discussed in subsections 5.2.1 and 5.2.2.

The START-2 deployed six high volume air samplers throughout the site to measure ambient levels of airborne asbestos. The air sampling network provided ambient air data in the fall of 2003 and the spring of 2004. The sampling network and results are discussed in subsection 5.2.3.

In addition to assessing asbestos contamination at the site, the START-2 characterized lead soil contamination at the site by collecting 150 soil samples and screening the samples on site with an XRF spectrometer. The lead contamination was delineated to an area of approximately 25 feet in diameter. Lead-contaminated soil was removed by the RP based on the sampling results discussed in subsection 5.3.

Activity-based air sampling was conducted by the START-2 in 2004 to measure the levels of airborne asbestos dust liberated from the site soil while conducting three specific tasks that are common

activities conducted by residents living at the site. This sampling activity was performed as an alternative method to soil sampling in assessing the impact of ACM on airborne asbestos content. Results of this sampling will likely be used to assess the risk associated with conducting these activities in asbestos-contaminated soils. Subsection 5.4 discusses the sampling procedure and analytical results.

5.1 SOIL SAMPLING

The RP retained the services of Dr. Berman, representing his firm Aeolus, Inc., to assess the risk posed by the ACM in the soils. The RP collected both composite soil samples encompassing several acres of the site and discrete soil samples from areas of highly concentrated ACM to assess the airborne asbestos exposure to residents. The START-2 was tasked by the EPA to collect composite soil samples from 22 residential properties at the site. The sample collection procedures and analyses utilized by the RP and the START-2 are discussed in subsections 5.1.1, 5.1.2, and 5.1.3.

5.1.1 Baseline and Hot Spot Sample Collection

To evaluate the ACM content in soils over a large portion of the site, Dr. Berman proposed the collection of composite soil samples prior to the removal of surficial ACM. As described in the *Preliminary Sampling and Analysis Plan* (2003b) dated June 16, 2003, and reiterated in the *Sampling and Analysis Plan for a Fast-Track Sampling Program at the North Ridge Estates Site* (2003a) prepared by Dr. Berman, an area of approximately 140 acres was subdivided into 120 uniformly sized squares. This contiguous area represented the soils on which the highest concentration of military buildings were once situated. The 120 squares were then grouped into 10 sets with 12 aliquots being collected from each set; thus, a total of 10 composite samples were collected by homogenizing the 12 component samples collected from each set.

Sample collection conducted between June 17 and 20, 2003, by PBS employees followed the procedures outlined in the *Superfund Method for the Determination of Releasable Asbestos in Soils and Bulk Materials* prepared by Dr. Berman and A.J. Kolk in 1997, with modifications for the composite sampling (Berman and Kolk 1997). Equal volumes of soil were collected from each grid utilizing a template measuring 8 inches by 8 inches and removing 1 inch of top soil. The aliquots were then individually placed in plastic bags, labeled, and grouped in a plastic bucket corresponding to each of 10 composite samples.

Sample preparation was conducted inside the vacant MBK warehouse by PBS personnel who were wearing respiratory and dermal protection. The purpose of the sample preparation was to reduce

each sample's size of approximately 20 to 25 kilograms of soil to a more manageable sample size of approximately 200 to 320 grams of soil. Sample prep also included separating the readily visible ACM components (e.g., CAB, roofing material, floor tile) from the soils for separate analysis. The procedure for homogenizing and splitting the samples is described in the SAP prepared by Dr. Berman (Berman 2003b). The START-2 monitored the collection and preparation of the soil samples by the RP and donned appropriate respiratory and dermal personal protective equipment (PPE).

PBS also collected seven soil samples from concentrated ACM "hot spot" locations at the site identified by the EPA OSC. These locations are displayed in the RP's *Report of Surficial Removal and Burial Location Actions* (PBS 2004b). These samples were prepared in the same manner as the composite samples collected for the baseline assessment, as these samples also required homogenization and reduction to a representative sample of 200 to 3,200 grams. The concentrated ACM samples were collected to assess if samples from these specific areas released more asbestos to the air than the areas where composite baseline samples were collected. The 18 processed soil samples (10 composites, seven hot spots, and one background) were submitted by PBS to the RP-subcontracted laboratory, EMS Analytical in Pasadena, California, for asbestos TEM analysis via the ISO Method 10312. Analytical results are provided in Dr. Berman's 2004 report.

5.1.2 START-2 Residential Soil Sampling

Because residents and the EPA were concerned with the exposure from ACM on each property, the EPA tasked the START-2 to collect composite soil samples that could be referenced to each residential property. In contrast to the approach employed by the RP contractor, samples locations were preferentially targeted in areas where residents were likely to frequent on their property and/or in areas that contained ACM. Twenty-two residential properties were sampled by the START-2 with 10 aliquots collected from each property to develop one composite sample. As stated in the START-2 *MBK Partnership/North Ridge Estates Subdivision Site-Specific Sampling Plan,* sampling targeted areas on each residence suspected of containing ACM (E & E 2003a). This information was obtained by reviewing historical photographs and maps and by noting areas that contained ACM during the surficial removal. It should be noted that this activity was tasked to the START-2 after most of the surficial removal had been completed by RSA. Since the material on the surface had been removed from most of the lots, the samples were collected from a depth of 0 to 2 inches within the 8-inch by 8-inch template, instead of the 0 to 1 inch depth the RP utilized before the surficial removal was conducted. As a result of collecting from this depth, visible ACM was obtained in many of the samples.

In addition to targeting sample collection from areas believed to contain ACM, samples were obtained from areas on the property utilized frequently by residents (e.g., children's play equipment; areas adjacent to decks and patios; gardens or landscaped areas; and front and back yard walkways). In areas where grass/sod was present in a target area, a soil sample was collected from beneath the sod, because ACM below the grass is believed to migrate to the surface with the freeze/thaw cycles that occur at the site.

Samples were collected from September 15 to 19, 2003. Each sample location was geo-referenced with a Trimble® GPS unit and a map was created identifying all of the sample points (Figure 5-1). The processing of all of the sample aliquots to create the 22 composite samples was identical to the method employed by the RP. Twelve of the 22 samples were randomly chosen and submitted to the START-2 subcontracted laboratory, Lab/Cor, in Seattle, Washington, for ISO Method 10312 TEM analysis. The remaining 10 samples were kept in EPA custody pending the results of the initial 12 samples.

5.1.3 Analytical Summary for Soil Samples

The 18 soil samples submitted for analysis by the RP and the 12 soil samples submitted for analysis by the START-2 were all processed by a method developed by Dr. Berman. The Modified Elutriator Method (Berman and Kolk 2000) developed for this site involved the introduction of approximately 50 to 80 grams of the homogenized sample (25% of the 200 to 320 gram sample submitted) to a specially designed dust-generator, known as the elutriator, in an attempt to separate the respirable fraction of each sample. The respirable fraction is deposited on a TEM air sampling filter located in the elutriator, weighed, and prepared for analysis by TEM. The following paragraph from Dr. Berman's report describes how the Modified Elutriator Method may quantify the concentration of asbestos for the entire soil sample:

> As has been shown (Berman and Kolk 2000), by reporting the results of samples analyzed as described in this method as the ratio of the number of asbestos structures per gram of the respirable dust that is produced, the resulting measurements reflect the concentration of asbestos that is an inherent property of the original, bulk sample. In fact, the preparation steps of Berman and Kolk (2000) are designed specifically to assure that the microgram quantities analyzed by TEM remain representative of the kilogram-sized samples collected in the field. Such measurements are thus unique among the kinds of bulk asbestos measurements that can be

derived using available methods and are particularly suited for supporting risk assessment.

The data collected by the RP and the START-2 has been incorporated into the *Final Soil Sampling and Preliminary Risk Assessment for the North Ridge Estates* site report prepared by Dr. Berman and as of the authoring of this report, is under review by the EPA (Berman 2004).

In addition to the samples processed by the Elutriator Method, the EPA separately funded an alternate method of processing 12 split samples of the START-2 collected soil samples. The composited samples were provided to representatives from the EPA Region 10 Manchester Environmental Laboratory for processing utilizing manual agitation, instead of elutriation, in a sealed compartment known as a "glove box" with personal sampling pumps collecting filter samples within the compartment. The sample filter cassettes were then submitted to Lab/Cor to conduct the ISO Method 10312 TEM analysis. The method for processing the soil samples is detailed in the EPA QAPP prepared by the Office of Environmental Assessment group (EPA 2003c).

For the purpose of this report, a summary of the asbestos particulates counted in the air filters for the 12 soil samples collected by the START-2 are provided in Table 5-1. These 12 samples were processed by both the Elutriation Method and the glove box method. However, a direct comparison cannot be made since a processed sample, with the ACM source material removed, was not utilized for the glove box sample collection.

As mentioned previously, the ISO Method 10312 TEM analysis was employed for this task to identify the asbestos structures. In general, the TEM method can positively identify asbestos particulates of specific dimensions. This method differs from the less expensive PCM technique in that PCM counts all particulates (asbestos or other dust) that meet certain dimension criteria and appear to be "asbestiform" based on visual observation under an optical microscope. The TEM technique, which has much higher magnification, positively confirms that the material is asbestos using electron diffraction (ED) and energy dispersive X-ray analysis (EDXA). The TEM method can also classify what are known as phase contract microscopy equivalent structures (PCME). Structures identified with the PCME technique follow the same dimensional criteria as the PCM method; however, the structures are positively identified using ED and EDXA. The PCME structure counts are pertinent because most of the historical health effect studies for asbestos exposure are based on PCM counts. Table 5-1 displays the asbestos structure counts from the 12 residential soil samples utilizing the counting rules for ISO Method 10312 TEM, PCME, and the Protocol structures which were all analyzed by a TEM instrument. Protocol

asbestos structures are those defined by Dr. Berman with distinct dimensional criteria and are different from the ISO Method 10312 or PCME definition.

Interpretation of this data and the RP sample data is detailed the preliminary risk assessment report submitted to the EPA by Dr. Berman (Berman 2004). The data obtained from the glove box analysis was not reviewed in the report but may be utilized by the EPA for future risk assessment decisions.

5.2 ASBESTOS AIR SAMPLING

5.2.1 Residential Air Sampling

Residential air sampling was conducted by PBS at 22 residences at the site to evaluate the potential for asbestos from ACM in site soils to impact the air quality inside the homes. According to the SAP, the project design included air sampling from inside and outside of each residence simultaneously to evaluate the degree to which indoor airborne concentrations may be uniquely attributable to secondary sources, including tracked in soils in the residence (Berman 2003c).

The RP collected samples over three weeks with approximately six to eight residences sampled each week. The START-2 collected split samples at two residences each week. In addition to the 46 indoor/outdoor air samples collected at the 22 residences[1] by PBS and the 12 split samples collected by the START-2, three background samples were collected each week by PBS on a hillside south of the site. Each air sample was collected over a three-day period for approximately 8 hours per day at a flow rate of 2 liters per minute (l/min). The low volume personal sample pumps were erected inside and outside each residence with the sample cassette raised on a stand to approximately 1.5 meters. The sample cassettes were collected, sealed, and stored in a locked compartment inside the PST MCP each night during the three-day sampling period. Based on the flow rate and the sample period, each sample was expected to have between 2,500 and 3,000 liters of air drawn through them.

5.2.2 Residential Air Sampling Analytical Results

Samples collected by both PBS and the START-2 were analyzed by the ISO Method 10312 TEM method for the determination of asbestos content in the residential air samples. The analytical results from the 46 RP-collected samples at 22 residences and nine background samples were interpreted by Dr. Berman and are included in the *Preliminary Air Sampling Results for the North Ridge Estates Site* report

[1] Sampling at one residence was repeated so that two additional air samples were collected.

dated November 2003 (Berman 2003c). The review notes that the highest number of asbestos structures detected in any of the air samples was two. In addition, 46 of the 55 air samples collected by PBS had no asbestos structures identified in the sample results.

Based on this set of analytical data, there appeared to be no statistically significant difference between samples collected inside or outside of each residence. The ISO Method 10312 employs the Poisson distribution when interpreting data, which means that structure counts observed on different samples are compared statistically. This statistical interpretation indicates that there is no statistical difference between air samples that contain from zero to three structures. Thus, the air samples collected for the residential sampling are not distinguishable from background air samples.

The 12 split air samples collected by the START-2 had structure counts similar to those discussed in the RP report with no structures detected in any of the 12 air samples (Table 5-2). The property location identifiers for each of the six properties the START-2 collected split residential air samples are indicated in Table 5-2 and displayed on Figure 5-2.

5.2.3 START-2 Ambient Air Sampling Network

In addition to collecting split residential indoor and outdoor air samples, the EPA tasked the START-2 to conduct ambient air sampling at the site to assess general levels of airborne asbestos particles over several weeks in the fall of 2003 and the spring of 2004. This was accomplished by utilizing a set of six high volume air samplers to create a site air sampling network. The high volume samplers were set at a flow rate of approximately 10 l/min and operated for five hours to capture a volume of over 3,000 liters each day. The samplers, labeled Aa through Ff, were deployed at the six locations shown on Figure 5-2, with the southernmost location (sample location Cc) designated as the background sampler. Since these high volume sample pumps could not operate on battery power, several residents provided access to their power outlets and utility cords were run approximately 50 to 150 feet to the sample pumps. Samples were collected over the course of 13 days between August 20, 2003 and September 23, 2003 and then for another two days from April 28 to 29, 2004.

The START-2 collected a total of 90 air samples from the air sampling network and submitted them for TEM analysis by the Modified EPA-II Method. This method is similar to the Asbestos Hazard Emergency Response Act (AHERA) clearance test conducted in buildings upon completion of an abatement project. Although the method does not utilize the same counting rules utilized by the ISO Method 10312, the AHERA method does provide a regulatory benchmark of 0.01 f/cc that must be met before clearance is achieved. Since the method is conducted with TEM technology, it positively

identifies asbestos structures. The asbestos structure count and resultant asbestos concentration in f/cc for all 90 air samples collected from the air sampling network is provided in Table 5-3. Most of the ambient air samples had no asbestos structures counted. The highest concentration of asbestos fibers was detected in sample 04040205, which was collected from sample location Ee on April 28, 2003, at 0.004 f/cc (Table 5-3). Based on this data, it is likely that the ambient levels of asbestos dust do not pose an immediate threat to human health at the site, although this data may be further evaluated by the EPA and other parties.

5.3 LEAD IN SOIL ASSESSMENT, DELINEATION, AND REMOVAL

A subordinate concern to the ACM contamination at the site is the presence of lead in the soils potentially resulting from lead-based paint that coated most of the buildings and subsequently leached into the soils through either the demolition activities or exposure to the elements. Building debris with light green-colored paint has been observed at the site, primarily on the MBK lots that were not part of the 2003 removal. Although other sources of lead contamination may exist at the site (e.g., car batteries, lead pipe, solder, etc.), none of these items have been observed in the surface soils.

The START-2 conducted soil sampling and analytical screening for lead from July 28, 2003, through August 1, 2003, to assess the extent of lead contamination in the site soils. The RP was not involved with this assessment. A biased sampling approach was employed by the team to identify potentially contaminated areas. The START-2 collected soil samples from 150 locations at a total of 35 properties targeting areas of visual soil staining, exposed soils, and where debris was visible (Figure 5-3). Thirteen duplicate split samples were collected and screened as well. Screening results of all the samples collected as part of this effort are provided in Appendix C.

Grab samples from each property were collected using a clean, stainless steel spoon from the top 2 inches of soil at each location. The samples were homogenized in aluminum pie pans and subsequently placed in sampling cups for screening with a Niton® XRF spectrometer. Field screening with the XRF was performed on site by the START-2 following the manufacturer's instructions and *Quality Assurance Technical Information Bulletin-Field Portable X-Ray Fluorescence* (EPA 1991) guidance.

Approximately 12% of the samples field screened by the XRF were submitted to NVL, in Seattle, Washington, for confirmation analysis by EPA Method 7420 for lead. Based on the XRF results, 19 samples ranging from non-detect to the highest detection (943.2 mg/kg) were prepared for submittal to a commercial laboratory (Table 5-4). Confirmation analytical results from NVL indicated that only one sample exceeded the EPA Region 9 Preliminary Remedial Goal (PRG) benchmark for lead in residential

soil of 400 milligrams per kilogram (mg/kg). Sample 0307123, collected from a discolored and bare area on the MBK-C property, contained 1,500 mg/kg lead. The XRF data had indicated that two samples, 03070123 and 03070129, exceeded the PRG benchmark with concentrations of 943 mg/kg and 444 mg/kg, respectively. Laboratory data indicated that sample 03070129 had a lead concentration of 320 mg/kg. The analytical results of the samples submitted to a commercial laboratory are provided on Table 5-4.

After the 2003/2004 winter snow had thawed, the START-2 returned to the site to delineate the extent of lead-contaminated soils identified in the initial assessment. Interpretation of the XRF screening data indicated that the contaminated area was localized since the samples collected for the lead assessment on the MBK-C property and all five samples collected on adjoining lot Q to the south had less than 50 mg/kg lead according to XRF analysis (Figure 5-3, Appendix D).

To delineate the extent of contamination on the MBK-C property, a concentrated soil sampling grid was established by centering on the contaminated area with grid nodes spaced 15 feet apart. Surface soil samples were collected from 49 locations over an area measuring 90 feet by 90 feet (Figure 5-4). Samples were collected in the same manner as described for the assessment sampling. The XRF was used to conduct screening analysis on all 49 samples, seven of the 49 samples were submitted to NVL for confirmation analysis.

In-situ screening of soils at 18 inches bgs, where natural rock was encountered, was conducted at three additional locations outside of the grid near the discolored soils. In all of three of these locations, the XRF data indicated the contamination was near background levels.

Analytical results indicated that three samples (samples 04040125, 04040131, and 04040132), had elevated levels of lead ranging from 610 mg/kg to 8,200 mg/kg (Table 5-5). The corresponding XRF values for these samples ranged from 306 mg/kg to 4,710 mg/kg (Table 5-5). The three samples with lead contamination exceeding the EPA Region 9 PRGs were collected from adjacent grid points E3, E4, and D4. Based on the distance between these three points, the maximum area of contamination was determined to be approximately 25 feet in diameter (Figure 5-4). None of the samples from the adjacent residential property to the south (A1 to C7) had elevated levels of lead contamination (Appendix D, Figure 5-4).

Based on the results of the delineation of lead-contaminated soils conducted by the START-2, the RP agreed to conduct a removal of the contaminated material. RMCat was subcontracted by the RP to excavate the soils with confirmation and disposal sampling performed by PBS. On October 6, 2004, the soils were excavated to a depth ranging from 1.5 to 2 feet in a triangular area measuring 28 feet by 30

feet by 40 feet. Because the RP had difficulty obtaining a container for the excavated soils, the material was placed atop plastic sheeting that was laid on a level area on the MBK-C property. Approximately 26.5 tons of material were removed and covered with additional plastic sheeting (Appendix A). On October 7, 2004, four confirmation samples were collected by PBS from the base and sides of the excavation zone and submitted for total lead analysis to Environmental Services Laboratory (ESL) in Portland, Oregon, on October 8, 2004.

According to PBS, the ESL analytical report indicated the total lead results for the four, at-depth confirmation samples were 56 mg/kg, 170 mg/kg, 290 mg/kg, and 410 mg/kg. Although one sample was slightly higher than the PRG benchmark of 400 mg/kg, the removal was deemed complete by the EPA because the sample was collected at depth and the area had subsequently been covered with 2 feet of soil, preventing exposure.

The excavated material was disposed as lead-contaminated soil at the Klamath County landfill on October 12, 2004 (PBS 2004). A composite sample of the excavated material had passed the TCLP lead test with a result of 0.50 milligrams per liter (mg/L).

5.4 ACTIVITY-BASED SAMPLING

Another method to assess the exposure and risk associated with the asbestos contained in the site soils is to conduct specific activities and measure levels of airborne asbestos in the breathing space and ambient air. Activity-based sampling (also referred to as simulation sampling) measures the level of human exposure to contaminants that may result from performing specific tasks over a period of time and under specific atmospheric conditions. Those measurements and conditions are then extrapolated and modeled via dust emission models to calculate the risk associated with performing those activities. This type of sampling is being conducted at numerous sites by the EPA.

The EPA and the START-2 performed activity-based sampling at the MBK/NRE site the week of July 18, 2004. Three activities that had varying levels of soil disturbance were performed at the site to gauge the impact on airborne asbestos levels in the breathing space. The three activities conducted at the site included weed-trimming with an electric trimmer, tilling soil with a gas-powered rototiller, and a child playing in the dirt. The activities for this work were chosen after evaluating input from several regulatory agencies and from residents at a community meeting. Samples were collected utilizing personal sampling pumps worn around the waistline by personnel with the sample inlet at chest height. A particulate dust monitor was also worn to measure the total airborne dust concentration

The EPA Region 10 mobile laboratory was utilized at the site to analyze the samples via the asbestos PCM method to ensure the samples were not overloaded. Overloading occurs when too much particulate matter is collected on the filter and it cannot be analyzed. Based on the analysis of the samples by the on-site laboratory, the sample period and flow rate of the pumps was adjusted to provide samples that can be analyzed.

The sampling was conducted on three MBK lots, MBK-A, MBK-B, and MBK-C, where surficial removal of ACM had not occurred under the 2003 removal, although some cleanup was done in 2002 by the RP prior to the EPA's involvement. This area was chosen to conduct the sampling because there are no residents living on these properties and the concentration of ACM in the surface soils are believed to reflect the conditions at the site before the RA was conducted.

5.4.1 Child Play Activity

There are many children of various ages living in the NRE residential development and both the residents and regulatory agencies advocated the development of a scenario to measure the children's exposure to airborne asbestos while playing in the site soil. The area selected contained various types of ACM including floor tile, roofing shingles, and CAB. This activity was conducted within an area of approximately 25 square feet on the MBK-A property. All air samples were collected on July 20, 2004.

As detailed in the START-2 SSSP for activity-based sampling (E & E 2004), the START-2 donned the appropriate respiratory and dermal PPE and wore two personal sampling pumps while conducting the activity. The task called for filling and emptying a bucket every five minutes and repeating three times before turning a quarter turn and starting the set of filling/emptying the bucket three times again. This activity was to be conducted for a period of two hours. While conducting the first sampling activity, it became apparent that the dust generated from dumping the soil from the bucket to the ground would overload the air filters before the two hour period was completed. The sampling was reduced to 70 minutes for analysis by the on-site laboratory via the PCM method. Analysis of the samples indicated they were both overloaded with dust.

Based on these results, the sample time was adjusted to 40 minutes at two flow rates, 1.5 l/min and 2.0 l/min. Personnel conducting the activity then filled/emptied the bucket one time for 5 minutes, instead of three times for 15 minutes, before turning a quarter turn and repeating. In this manner, the activity cycle was repeated eight times so that the subject made two complete revolutions to finish the task. The task was then conducted two more times with new filters. The on-site mobile laboratory

analyzed six of the filter samples, and the four samples that did not appear to be overloaded (samples 04070002, 04070004, 04070005, and 04070006), were submitted to Lab/Cor for TEM analysis.

Of the four samples submitted to the laboratory, two were rejected (samples 04070002 and 04070005) by the laboratory as they were not suitable for TEM analysis. The remaining two samples were analyzed via the ISO Method 10312, providing structure concentrations and counts. Sample 04070004 had a reported concentration for PCME structures of 0.047 structures per cubic centimeter (s/cc) and sample 04070006 had a reported concentration for PCME structures of 0.058 s/cc. Analytical results of these samples are provided on Table 5-6.

The asbestos concentrations identified in these two samples are the highest of any air samples collected by the START-2 during the activity-based sampling. This is primarily due to the height of the filter inlets being closer to the ground as the subject was sitting and the aggressive agitation of the soils while performing this task.

5.4.2 Weed-Trimming Activity

The second activity conducted by the EPA and the START-2 personnel was weed trimming utilizing an electric trimmer in an area straddling the MBK-B and MBK-C properties measuring approximately 50 feet by 100 feet. Again, the area soils contained a mixture of ACM which had not been removed during the 2003 RA. Personnel wore respiratory and dermal protection while conducting this activity.

The study area was divided into nine equal grids in which the weed trimming was performed by facing one direction for a specified time period before moving to the next grid and turning a quarter turn before continuing the activity. A test run was conducted to determine how long the activity could be performed before the air filters would be overloaded with dust. Based on the analysis by the on-site mobile laboratory, the activity period was set at five minutes within each of the nine grids with a two-minute interval that allowed for setting up in the next grid and facing a new direction. To collect one sample, the subject completed the weed trimming activity in all of the nine grids. As with the child play activity, the subject wore two personal sample pumps and a dust monitor data collector. Both sample pumps were set initially at 1.5 l/min so that a backup sample was collected in case of a pump fault.

Three rounds of weed trimming air sampling were conducted on July 21, 2004, not including the initial test run. Of the six air samples collected for this activity, the on-site laboratory indicated that four

samples (samples 04070012, 04070013, 04070014, and 04070015) were acceptable for submittal to a commercial laboratory.

Three of the four samples were accepted by Lab/Cor for TEM analysis. Sample 04070013 was not suitable for TEM analysis. The asbestos structure PCME concentrations for the three samples (samples 04070012, 04070014, and 04070015) indicated the levels were lower than the child play activity at 0.012 s/cc, 0.018 s/cc, and 0.019 s/cc. The lower concentrations of asbestos fibers in these samples are likely due to the sample inlet being at chest height while standing and the less aggressive agitation of the soils by weed trimming. Analytical results of these samples are provided on Table 5-6.

5.4.3 Soil Tilling

The final activity-based sampling activity completed by the EPA and the START-2 was to till soil utilizing a gas-powered rototiller (Appendix A). The tilling activity was conducted on July 22, 2004, in the same study area utilized for the weed trimming activity the previous day. Again, as detailed in the START-2 SSSP (E & E 2004), the area was subdivided into nine grids (laid out in a rectangle of three grids by three grids) so that the activity could be conducted facing four different directions at timed intervals. The subject wore two sample pumps set at a flow rate of 1.5 l/min and a dust particulate monitor. As with the weed trimming activity, the sample inlets were placed at chest height on a standing adult.

Since the tilling activity would require a great deal of physical effort to conduct while wearing respiratory and dermal protection, the length of time conducting the activity in each grid was reduced to three minutes. The interval between tilling and moving to the next grid was set at three minutes to allow time for the operator to move the equipment, turn one quarter turn, and provide a short rest. Thus, the entire soil tilling activity required 54 minutes to complete with six minutes spent in each of the nine grids.

The PCM analysis conducted by the on-site EPA mobile laboratory indicated that samples 04070017, 04070018, 04070019, and 04070021 could be submitted for analysis, even though some of these samples were close to being overloaded with dust.

The commercial laboratory rejected filter samples 04070017 and 04070021 as the laboratory determined the samples were overloaded and could not be properly analyzed to provide a credible result via the TEM method. The remaining two samples, 04070018 and 04070019, had PCME concentrations of 0.026 s/cc and 0.021 s/cc. Analytical results of these samples are provided on Table 5-6.

These results were lower than the child play activity which is likely due to the height of the sample inlet. However, the agitation of the soil during the tilling was high compared to the weed trimming activity. As a result, the asbestos PCME concentrations for the soil tilling activity are higher than the weed trimming activity.

5.4.4 Soil Sample Collection from Activity-Based Study Areas

On July 19, 2004, soil samples were collected from both areas where the activity-based sampling occurred. As described in the START-2 SSSP, one grab sample was collected from the child play area and two composite samples were collected from the nine grids in the weed-trimming and soil-tilling study area (E & E 2004). Soil samples were collected from the upper 2 inches of soil in a square template with 8-inch sides.

The samples were collected for processing through the elutriation method and then submitted for TEM analysis. The data garnered from the soil samples and its relationship to the activity-based air samples will be included in a report to be prepared by the RP.

5.4.5 Background Samples

Upwind samples were collected each day of the sampling activity and submitted for TEM analysis. A high volume sampling pump was deployed approximately 100 feet upwind of the sample area and set at a flow rate of 10 l/min. Samples 04070023, 04070024, and 04070025, collected each day of the activity-based sampling, had no PCME fibers detected. Analytical results of these samples are provided on Table 5-6.

5.4.6 Summary of Activity-Based Sampling

Three activity-based air sampling tasks were performed on three days in late July 2004. Child play, weed trimming, and soil tilling were chosen as appropriate tasks which could be administered at the site without disrupting the normal routine of residents. These activities were selected as they are likely to be carried out by residents at the site. Analytical results suggest the highest exposure to fibers occurred from the child play activity. This was likely a result of the lower height of the sample inlet due to the subject sitting and the high level of soil agitation caused by dumping the soil out of a bucket.

For both the weed-trimming and soil tilling activities, exposure to dust visually appeared to be lower when there was a breeze as the dust would generally blow away from the subject before reaching the breathing space. When there was no breeze, the dust slowly rose around the subject's breathing

space. During both the weed trimming and soil tilling activities, there were periods with and without noticeable wind. A meteorological station was erected near the study area to measure wind direction, wind speed, temperature, and barometric pressure. The meteorological data, combined with the dust particulate data and the soil sample results, will be utilized by the EPA and the RP in estimating the exposure and risk associated with each of these activities.

Table 5-1

SOIL SAMPLE RESULTS–ASBESTOS STRUCTURE COUNTS
MBK PARTNERSHIP/NORTH RIDGE ESTATES SUBDIVISION
RESPONSIBLE PARTY REMOVAL ACTION REPORT
KLAMATH FALLS, OREGON

EPA Sample Number	Property Location[a]	ISO TEM Analysis (>5 microns)		PCME Analysis[b]		Protocol Analysis[c]	
		Elutriator Method	Glove Box Method	Elutriator Method	Glove Box Method	Elutriator Method	Glove Box Method
03090500	P	0	**1**	0	**1**	0	**1**
03090503	A	**1**	**2**	0	**2**	0	NA
03090504	Q	**6**	**18**	**2**	**8**	**4**	**4**
03090505	H	0	0	0	0	0	0
03090506	B	0	**2**	0	**1**	0	**1**
03090508	F	0	**2**	0	0	0	NA
03090509	E	0	**13**	0	**2**	0	NA
03090512	R	**1**	**11**	0	**4**	0	NA
03090513	X	0	**1**	0	0	0	0
03090514	L	0	**3**	0	**3**	0	NA
03090518	Y	**1**	0	**1**	0	0	NA
03090519	S	**8**	**24**	**1**	**8**	**1**	NA

[a] Refer to Figure 5-1 for location identifier.
[b] PCME structures are longer than 5 microns with an aspect ratio greater than 3 to 1.
[c] Protocol structures are generally longer than 5 microns and thinner than 0.5 microns.

Note: Bold text indicates that asbestos structures were identified. All samples analyzed by TEM. TEM structures column follow ISO 10312 counting rules.
Key:

EPA = United States Environmental Protection Agency.
ISO = International Organization for Standardization.
NA = Not applicable. The protocol reporting was not completed by the laboratory for this sample.
PCME = Phase contrast microscopy equivalent.
TEM = Transmission electron microscopy.

Table 5-2

INDOOR/OUTDOOR RESIDENTIAL AIR SAMPLING RESULTS
ISO 10312 TEM
MBK PARTNERSHIP/NORTH RIDGE ESTATES SUBDIVISION
RESPONSIBLE PARTY REMOVAL ACTION REPORT
KLAMATH FALLS, OREGON

Sample Location[a]	Date	EPA Sample Number	Asbestos Structure Count	
			EPA Sample	RP Sample
Outside (G)	8/19-21/2003	03080010	0	0
Indoor (G)	8/19-21/2003	03080011	0	1
Outside (B)	8/19-21/2003	03080012	0	0
Indoor (B)	8/19-21/2003	03080013	0	0
Indoor (L)	8/26-28/2003	03080042	0	0
Outside (L)	8/26-28/2003	03080043	0	0
Indoor (M)	8/26/28/2003	03080044	0	0
Outside (M)	8/26-28/2003	03080045	NA	0
Indoor (X)	9/3-5/2003	03090019	0	0
Outside (X)	9/3-5/2003	03090020	0	0
Indoor (Z)	9/3-5/2003	03090021	0	0
Outside (Z)	9/3-5/2003	03090022	0	0

[a] Property location is identified by letter on Figure 5-2.

Key:

NA = Not applicable.
U = Analyte not detected below specified detection limit.

Table 5-3

AMBIENT AIR SAMPLING (AIR MONITORING NETWORK)
MODIFIED EPA-II ANALYSIS
MBK PARTNERSHIP/NORTH RIDGE ESTATES SUBDIVISION
RESPONSIBLE PARTY REMOVAL ACTION REPORT
KLAMATH FALLS, OREGON

Sample Location[a]	Sample Date	Sample Number	Asbestos Concentration (Structure/cc)	Asbestos Structure Count
Aa	8/20/03	03080014	0.001 U	0
	8/22/03	03080018	0.001 U	0
	8/26/03	03080029	0.002 U	0
	8/27/03	03080035	0.001 U	0
	8/28/03	03080036	0.001 U	0
	9/3/03	03090001	0.001 U	0
	9/4/03	03090007	0.001 U	0
	9/5/03	03090013	0.001 U	0
	9/17/03	03090025	0.001 U	0
	9/18/03	03090031	0.001 U	0
	9/19/03	03090038	0.001 U	0
	9/22/03	03090050	0.001 U	0
	9/23/03	03090056	**0.002**	**2**
	4/28/04	04040201	0.001 U	0
	4/29/04	04040207	**0.001**	**1**
Bb	8/20/03	03080015	0.001 U	0
	8/22/03	03080019	0.002 U	0
	8/26/03	03080024	**0.003**	**2**
	8/27/03	03080030	0.002 U	0
	8/28/03	03080037	0.001 U	0
	9/3/03	03090002	0.001 U	0
	9/4/03	03090008	0.001 U	0
	9/5/03	03090014	0.001 U	0
	9/17/03	03090026	0.001 U	0
	9/18/03	03090036	0.001 U	0
	9/19/03	03090044	0.001 U	0

Table 5-3

AMBIENT AIR SAMPLING (AIR MONITORING NETWORK)
MODIFIED EPA-II ANALYSIS
MBK PARTNERSHIP/NORTH RIDGE ESTATES SUBDIVISION
RESPONSIBLE PARTY REMOVAL ACTION REPORT
KLAMATH FALLS, OREGON

Sample Location[a]	Sample Date	Sample Number	Asbestos Concentration (Structure/cc)	Asbestos Structure Count
Bb (cont'd)	9/22/03	03090055	0.001 U	0
	9/23/03	03090061	0.001 U	0
	4/28/03	04040202	**0.001**	**2**
	4/29/03	04040208	0.001 U	0
Cc	8/20/03	03080016	0.001 U	0
	8/22/03	03080020	0.002 U	0
	8/26/03	03080026	0.002 U	0
	8/27/03	03080032	0.002 U	0
	8/28/03	03080039	0.001 U	0
	9/3/03	03090003	0.001 U	0
	9/4/03	03090010	**0.001**	**1**
	9/5/03	03090016	0.001 U	0
	9/17/03	03090028	0.001 U	0
	9/18/03	03090033	0.001 U	0
	9/19/03	03090040	0.001 U	0
	9/22/03	03090052	**0.001**	**1**
	9/23/03	03090058	0.001 U	0
	4/28/03	04040204	**0.001**	**1**
	4/29/03	04040210	0.001 U	0
Dd	8/20/03	03080017	0.001 U	0
	8/22/03	03080021	0.002 U	0
	8/26/03	03080028	0.002 U	0
	8/27/03	03080034	0.002 U	0
	8/28/03	03080041	0.001 U	0
	9/3/03	03090006	**0.002**	**3**
	9/4/03	03090012	0.001 U	0

Table 5-3

AMBIENT AIR SAMPLING (AIR MONITORING NETWORK)
MODIFIED EPA-II ANALYSIS
MBK PARTNERSHIP/NORTH RIDGE ESTATES SUBDIVISION
RESPONSIBLE PARTY REMOVAL ACTION REPORT
KLAMATH FALLS, OREGON

Sample Location[a]	Sample Date	Sample Number	Asbestos Concentration (Structure/cc)	Asbestos Structure Count
Dd (cont'd)	9/5/03	03090018	0.001 U	0
	9/17/03	03090030	0.001 U	0
	9/18/03	03090035	0.001 U	0
	9/19/03	03090042	0.001 U	0
	9/22/03	03090054	**0.001**	**1**
	9/23/03	03090060	**0.001**	**1**
	4/28/03	04040203	0.001 U	0
	4/29/03	04040209	0.001 U	0
Ee	8/26/03	03080025	0.001 U	0
	8/27/03	03080031	0.002 U	0
	8/28/03	03080038	0.001 U	0
	9/3/03	03090004	0.001 U	0
	9/4/03	03090009	0.001 U	0
	9/5/03	03090015	0.001 U	0
	9/17/03	03090027	0.001 U	0
	9/18/03	03090032	0.001 U	0
	9/19/03	03090039	0.001 U	0
	9/22/03	03090051	**0.001**	**1**
	9/23/03	03090059	**0.001**	**1**
	4/28/03	04040205	**0.004**	**5**
	4/29/03	04040211	**0.001**	**1**
Ff	8/26/03	03080027	**0.002**	**1**
	8/27/03	03080033	0.002 U	0
	8/28/03	03080040	0.001 U	0
	9/3/03	03090005	0.001 U	0
	9/4/03	03090011	**0.001**	**1**

Table 5-3

AMBIENT AIR SAMPLING (AIR MONITORING NETWORK)
MODIFIED EPA-II ANALYSIS
MBK PARTNERSHIP/NORTH RIDGE ESTATES SUBDIVISION
RESPONSIBLE PARTY REMOVAL ACTION REPORT
KLAMATH FALLS, OREGON

Sample Location[a]	Sample Date	Sample Number	Asbestos Concentration (Structure/cc)	Asbestos Structure Count
Ff (cont'd)	9/5/03	03090017	0.001 U	0
	9/17/03	03090029	0.001 U	0
	9/18/03	03090034	0.001 U	0
	9/19/03	03090041	0.001 U	0
	9/22/03	03090053	0.001 U	0
	9/23/03	03090057	**0.001**	**1**
	4/28/03	04040206	0.001 U	0
	4/29/03	04040212	0.001 U	0

Note: Bold text indicates that asbestos structures were identified.

Key:

AHERA = Asbestos Hazard Emergency Response Act.
EPA = United States Environmental Protection Agency.
structure/cc = Structure per cubic centimeter.
U = Analyte not detected above specified detection limit.

Table 5-4

XRF LEAD AND LABORATORY CONFIRMATION SAMPLE RESULTS COMPARISON
MBK PARTNERSHIP/NORTH RIDGE ESTATES SUBDIVISION
RESPONSIBLE PARTY REMOVAL ACTION REPORT
KLAMATH FALLS, OREGON

Sample Identification	Location[a]	Analytical Result (mg/kg)	XRF Result (mg/kg)
03070123	MBKC-5	**1,500.0**	**943.2 (avg.)**
03070150	S-2	**130.0**	**126.2**
03070169	N-2	**180.0**	**236**
03070176	W-2	**310.0**	**295.8**
03070200	A-4	**89.0**	**93.9**
03070187	M-2	**230.0**	**145**
03070206	B-1	33.0 U	**27.2**
03070202	MBKA-1	**270.0**	**163.8**
03070212	E-2	**88.0**	**66.3**
03070213	E-3	**170.0**	**172.3**
03070222	MBKF-2	**250.0**	**183**
03070220	AL-3	33.0 U	**30.5**
03070248	G-3	**280.0**	**85.5**
03070242	H-2	33.0 U	22 U
03070255	MBKG-5	**43.0**	**35.4**
03070129	P-1	**320.0**	**444**
03070140	X-2	**58.0**	**52.6**
03070231	AM-2	33.0 U	**24.6**
03070163	BACKGROUND	33.0 U	21 U
EPA PRG		400	

[a] Location is the property owner followed by the location number (1-6) for that property.

Note: Bold text connotes that an analyte was detected.

Key:

EPA = United States Environmental Protection Agency.
mg/kg = Milligrams per kilogram.
PRG = Preliminary Remediation Goal.
XRF = X-ray fluorescence.
U = Analyte not detected above detection limit..

Table 5-5

XRF LEAD AND LABORATORY CONFIRMATION SAMPLE RESULTS COMPARISON–MAY 2004 MBK PARTNERSHIP/NORTH RIDGE ESTATES SUBDIVISION RESPONSIBLE PARTY REMOVAL ACTION REPORT KLAMATH FALLS, OREGON

Sample ID	Grid Location*	Analytical Result (mg/kg)	XRF Result (mg/kg)
04040103	A3	33 U	28 U
04040119	C5	33 U	23 U
04040125	D4	**8,200**	**4,710**
04040131	E3	**1,500**	**367**
04040132	E4	**610**	**306**
04040141	F6	32 U	24 U
04040144	G2	**93**	**73.8**
EPA PRG		400	

* Sample point can be located by referring to Figure 5-4.

Note: Bold texts indicates analyte detected. *Shaded boxes indicate a result above the PRG.*

Key:

EPA = United States Environmental Protection Agency.
mg/kg = Milligrams per kilogram.
PRG = Preliminary Remediation Goal.
U = Analyte not detected above detection limit.
XRF = X-ray fluorescence.

Table 5-6

ACTIVITY-BASED AIR SAMPLING RESULTS BY TEM–JULY 2004
MBK PARTNERSHIP/NORTH RIDGE ESTATES SUBDIVISION
RESPONSIBLE PARTY REMOVAL ACTION REPORT
KLAMATH FALLS, OREGON

Activity	Date	EPA Sample Number	PCME Structure Count	PCME Asbestos Concentration (structure/cc)
Child Play	7/20/2004	04070004	7	0.047
Child Play	7/20/2004	04070006	4	0.058
Weed Trimming	7/21/2004	04070012	4	0.012
Weed Trimming	7/21/2004	04070014	2	0.018
Weed Trimming	7/21/2004	04070015	5	0.019
Soil Tilling	7/22/2004	04070018	3	0.026
Soil Tilling	7/22/2004	04070019	2	0.021
Background	7/20/2004	04070023	0	0.006 U
Background	7/21/2004	04070024	0	0.005 U
Background	7/22/2004	04070025	0	0.007 U
Media Blank	7/22/2004	04070026	0	NA

Key:

NA = No concentration calculated. No structures were counted.
PCME = Phase Contrast Microscopy Equivalent.
structure/cc = Structure per cubic centimeter.
U = Analyte not detected above specified detection limit.

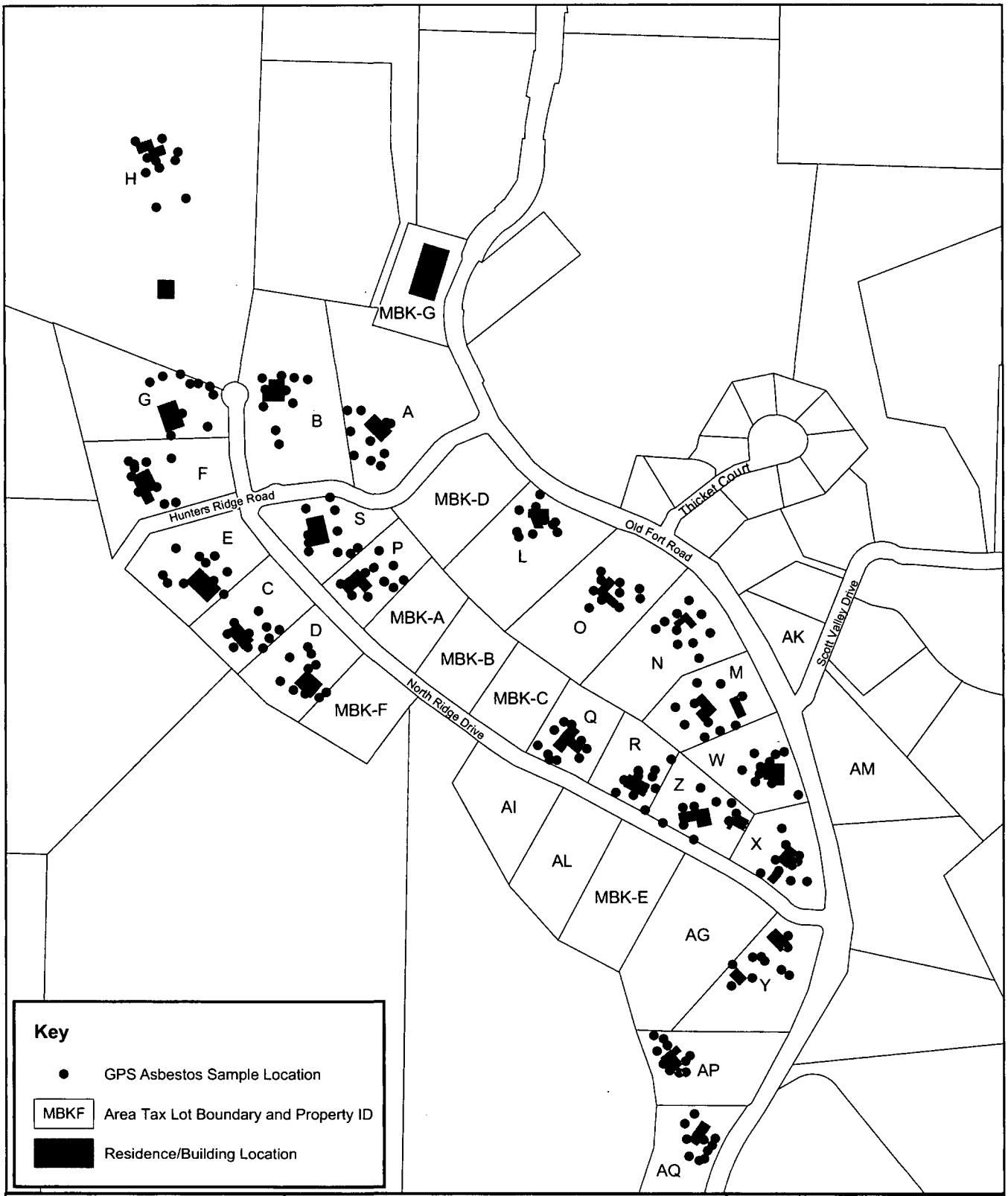

Figure 5-1

MBK Partnership/North Ridge Estates Asbestos Soil Sample Location Map

Klamath Falls, Oregon

ecology and environment, inc.
International Specialists in the Environment
Portland, Oregon

Job Id: 001281.0293.01RS

Date: February 3, 2004

Developed by: avh

Map Information:

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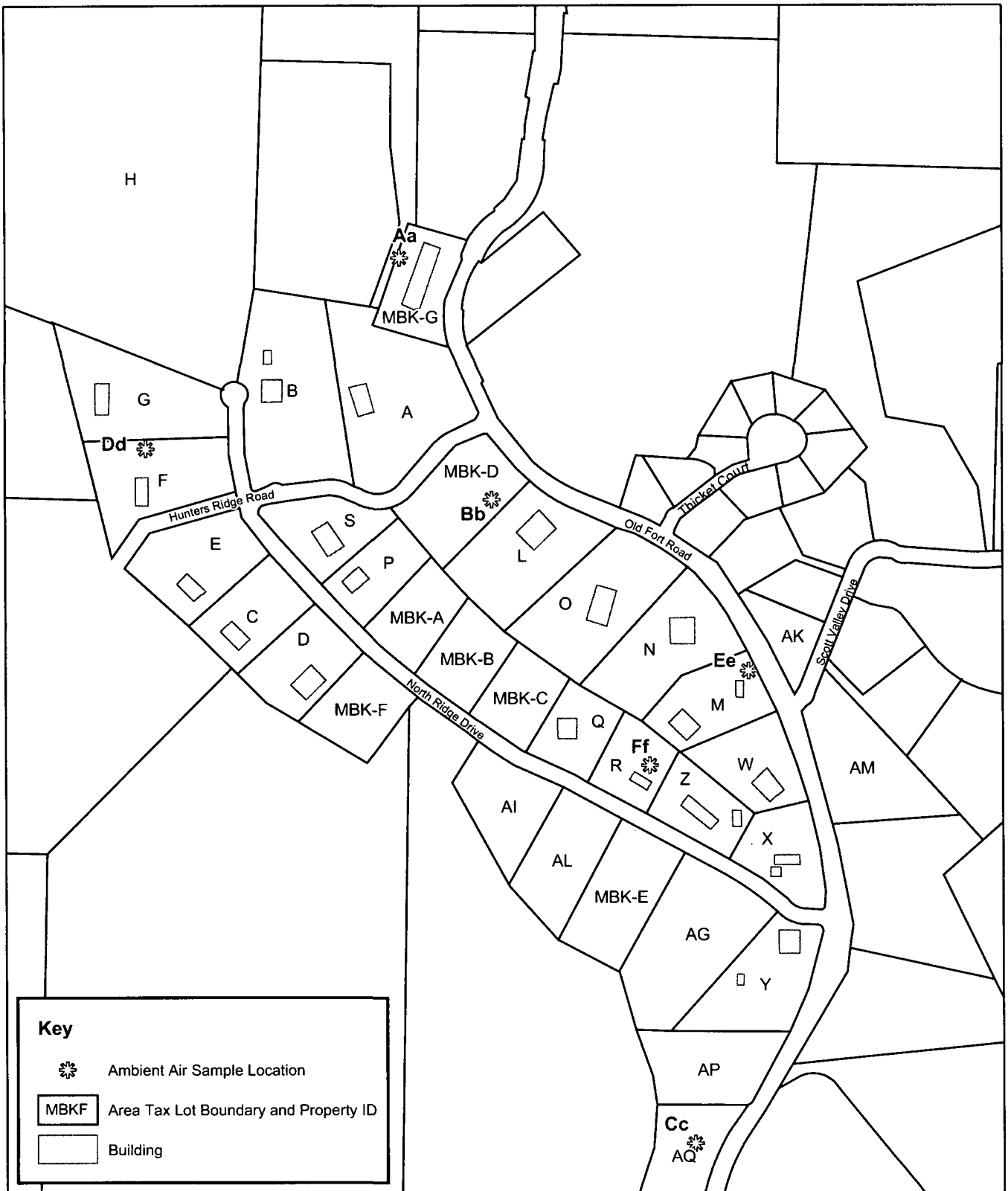

Figure 5-2

MBK Partnership/North Ridge Estates
Ambient Air Sample Network Map

Klamath Falls, Oregon

ecology and environment, inc.
International Specialists in the Environment
Portland, Oregon

Job Id: 001281.0293.01RS

Date: February 3, 2004

Developed by: avh

Map Information:

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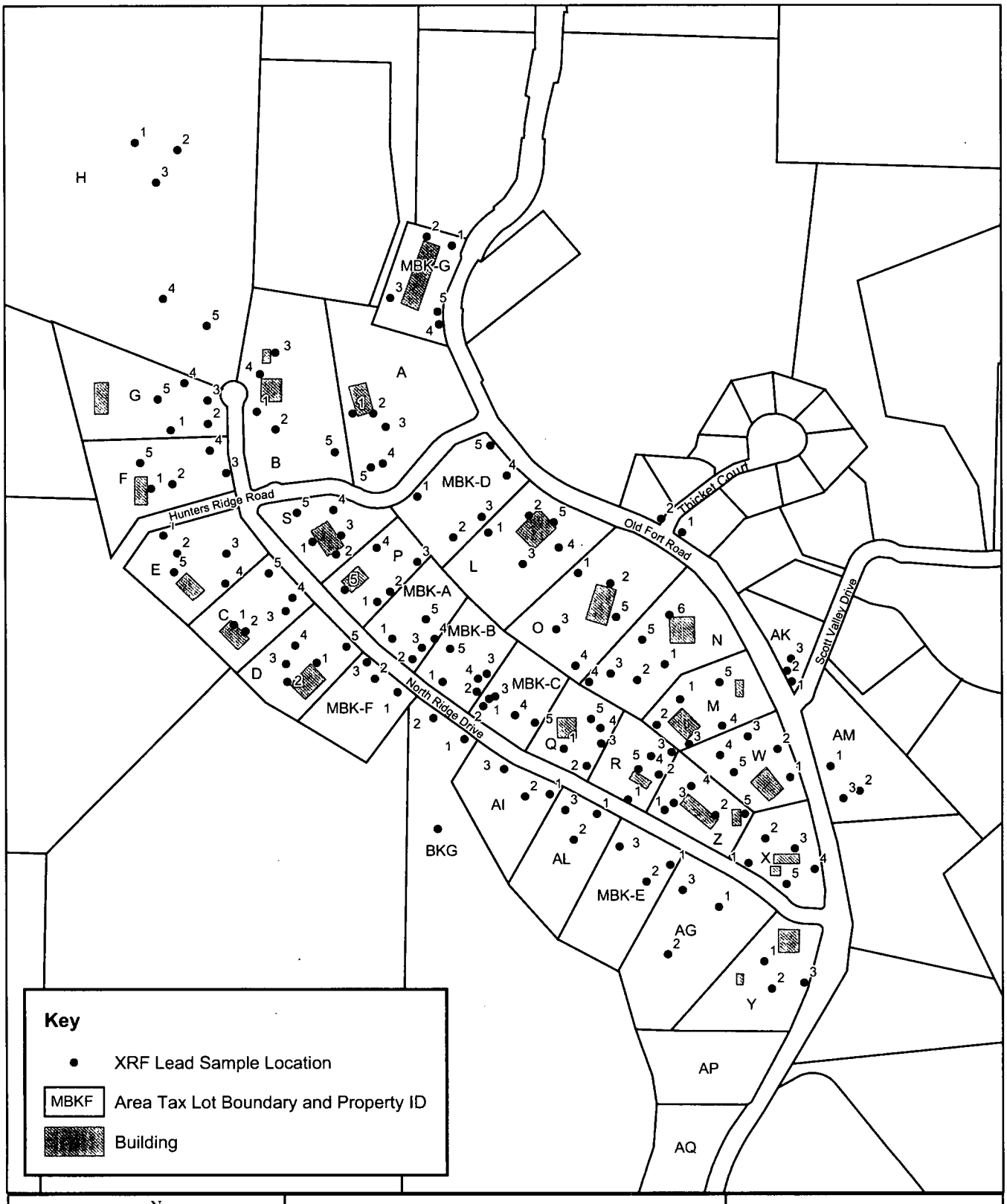

Figure 5-3

MBK Partnership/North Ridge Estates
Lead Soil Sample Locations

Klamath Falls, Oregon

ecology and environment, inc.
International Specialists in the Environment
Portland, Oregon

Job Id: 001281.0293.01RS

Date: September 3, 2003

Developed by: avh

Map Information:

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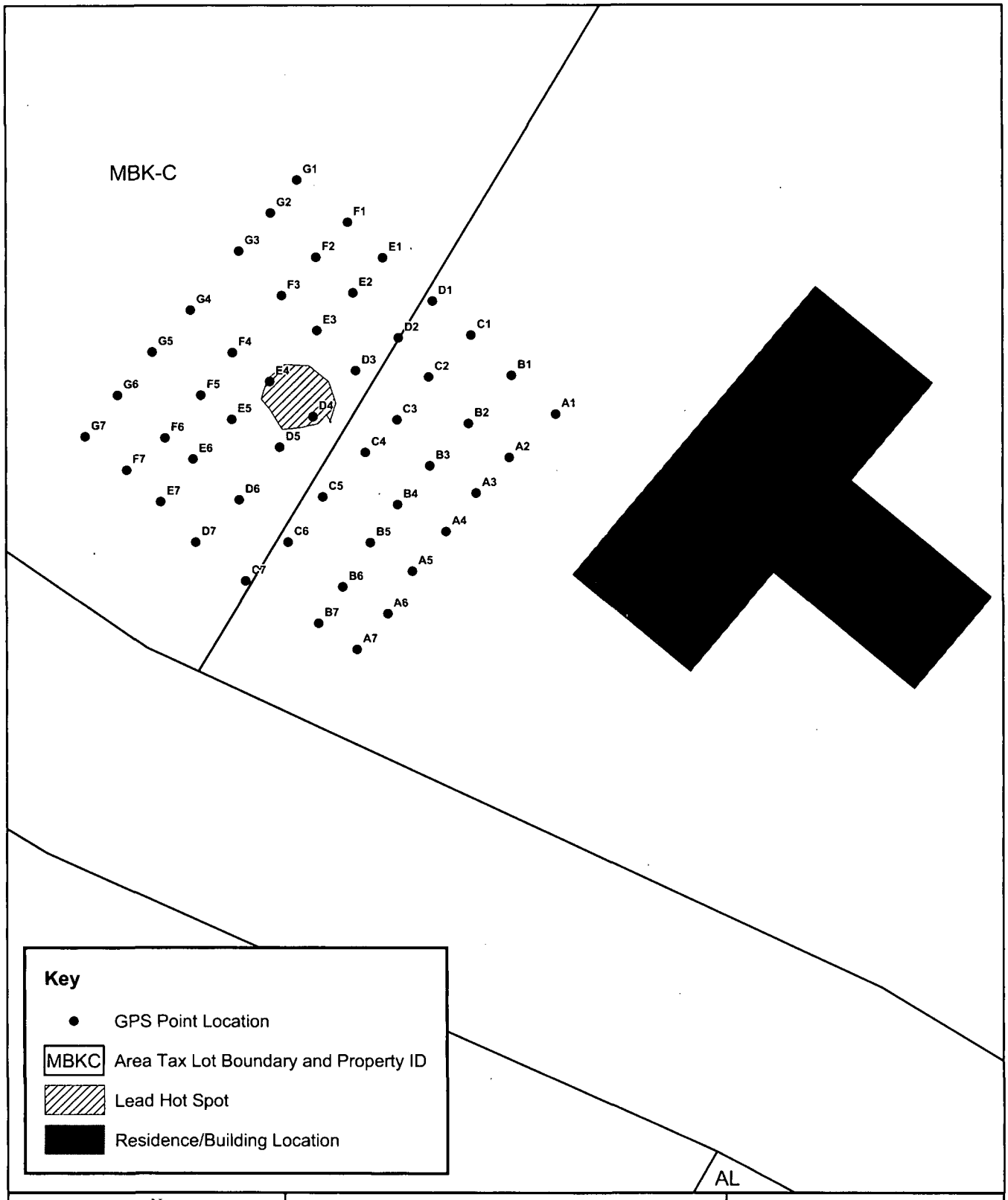

Figure 5-4

MBK Partnership/North Ridge Estates

GPS LEAD GRID

April 30, 2004

Klamath Falls, Oregon

ecology and environment, inc.
International Specialists in the Environment
Portland, Oregon

Job Id: 001281.0293.01RS

Date: September 3, 2003

Developed by: avh

Map Information:

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6. COMMUNITY RELATIONS

Communications with the public, community officials, and state agency representatives occurred throughout the duration of the removal activity at several community meetings conducted in Klamath Falls, Oregon. A reporter for the *Klamath Falls Herald and News* regularly interviewed the EPA OSC and wrote several articles about the actions at the site. Media coverage expanded to Portland, Oregon, with an investigative report conducted by the NBC television network affiliate and a front page story written by *The Oregonian*. The ODEQ and residents also were interviewed for several of the articles as well as for the television report. The EPA and the ODEQ both have established Web sites to share information about the site with the general public. The Web site created for the EPA project is located at http://yosemite.epa.gov/r10/cleanup.nsf/sites/NRE.

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7. HEALTH AND SAFETY

The EPA OSC maintained ultimate authority and responsibility for site safety during the RA. The USCG PST assisted the EPA in maintaining site safety. The START-2 and the RP consultants and contractors developed and implemented site-specific safety plans tailored to their scope of work.

Safety meetings to discuss chemical and physical hazards associated with the day's activities were conducted each morning before work began. Personnel from the EPA, the PST, the START-2, and the RP contractors attended the meetings.

Protective clothing, including a hard hat, a protective suit, and steel-toed boots, were required for conducting work that involved soil disturbance. Physical hazards at the site included heavy equipment operation, noise, and slips, trips, and falls. Respiratory hazards included airborne asbestos and lead caused by aggressive agitation of the soils. The major concern was inhalation and ingestion of particulate matter contaminated with these elements. To control the dust level, water was sprayed during excavation activities. To minimize the exposure of the on-site workers to a potential release of airborne contaminants, personnel were required to wear Level C PPE, which included a respirator, while conducting removal activities (e.g., excavation, activity-based sampling, etc.) that had the potential to greatly increase airborne particulates.

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8. SUMMARY OF REMOVAL ACTION AND STREAMLINED RISK ASSESSMENT

In May 2003, MBK entered into an AOC with the EPA to conduct an RA and SRA at the North Ridge Estates subdivision located near Klamath Falls, Oregon. The MBK/NRE site formally was home to a military base. Demolition of the military base buildings likely resulted in the ACM and lead found in site soils. ACM in site soils posed a potential threat to human health as site disturbance could result in unsafe levels of airborne asbestos. The AOC required the RP to conduct a removal of ACM from the surficial soil, map the location of the buried asbestos-wrapped steam line from the base, and stabilize the debris burial piles on the site.

The surficial removal of ACM began in June 2003 with approximately 7 tons of ACM removed from the site by October 2003. In April 2004, ACM was once again observed in the site surface soils where the removal had been conducted the previous year. Based on visual observations by the EPA and the START-2, the ACM in the site soil appeared to be less concentrated than it had been prior to the 2003 RA. Water erosion and ground heaving resulting from the seasonal freeze/thaw cycle exposed ACM which had previously been covered by shallow soil. The EPA is currently assessing additional alternatives to remediate the site soil.

In addition to the surficial ACM removal, a survey crew located thousands of feet of buried asbestos-insulated steam pipe at the site in July 2003 utilizing a sensitive magnetometer. When the military base had been in operation, the steam pipe conveyed heat to most of the buildings from a central coal-powered boiler on the north side of the base. The location of the pipe was verified by carefully excavating overlying soil where the survey crew marked the route of the buried line. It is unknown if all the buried pipe has been located because several breaks in the steam line from residential construction and capital improvements have made it difficult to verify with the magnetometer. A map of the known locations has been completed by the RP.

Stabilization of buried piles of ACM identified during the 2003 removal were addressed by filling in the open spaces in the piles with soil and mitigating the impact of surface water erosion by covering the soil with synthetic fabric and rock and utilizing water diversion techniques. These measures were not intended to address the long-term stabilization requirements. Those issues will likely be addressed under future remedial activities at the site.

The START-2 conducted soil sampling at the site to identify areas with lead contamination resulting from the lead-based paint used on the former military base buildings. The team was able to delineate a small area at the site, approximately 25 feet in diameter and 18 inches deep, which contained levels of lead above health-based benchmarks. The contamination was identified on an undeveloped RP-owned lot. Based on the START-2 field screening data obtained during the sampling event, the RP agreed to excavate and properly dispose of the lead-contaminated soil. A total of 26.5 tons of lead-contaminated soil was removed in October 2004.

The AOC also required the completion of an SRA to evaluate the release of asbestos fibers from ACM in the site soil and assess its impact on human health. Data was gathered for the SRA by conducting soil and air sampling for asbestos at the site. There is no established regulatory level which specifies unsafe levels of asbestos in soil. In addition, there is no EPA-approved method for relating asbestos concentrations in soil to unsafe levels of respirable asbestos. The RP hired a consultant that developed a method to predict airborne asbestos exposures based on bulk soil measurements. The method states that the data obtained from this processing and analysis of soil samples can be incorporated into published dust emission and dispersion models to predict airborne asbestos exposures and their associated risk. Soil and air sampling were conducted concurrently with the RA at the site throughout the summer and fall of 2003. Soil samples were collected for asbestos analysis from 22 residential properties and from localized areas of concentrated ACM at the site. Air samples were collected inside and outside of 22 residences for asbestos analysis as well. Analytical data for samples collected at the site have been incorporated into the SRA prepared by the RP. The SRA, currently under review by the EPA, indicates that the risks related to asbestos at the site do not pose an immediate threat to the residents but further study is recommended to gather more data and conduct a complete site characterization to facilitate making important risk management decisions in the future. The SRA states that to develop a permanent remedy for the site, additional, focused soil sampling will need to be conducted to define the areal and vertical distribution of the ACM. This data may then be utilized to support more accurate exposure and risk estimates.

The EPA is assessing the most appropriate actions to take at the site to be certain that residents are living in a safe environment. A remedial investigation is expected to proceed in the spring of 2005 to provide additional resources in addressing the concerns to human health at the site.

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APPENDIX A
PHOTOGRAPHIC DOCUMENTATION

PHOTOGRAPH IDENTIFICATION SHEET

Camera Serial No. 183742574 **TDD No. 03-07-0011**
Lens Type: Digital 10X Optical Zoom **Site Name: MBK Partnerhip/NRE Subdivision**

Photo No.	Date	Time	By	Direction	Description
1	10/10/02	1355	WM	SW	Warehouse structure remaining from the original military base.
2	10/10/02	1400	WM	W	Broken CAB on warehouse pictured in Photo 1, similar to CAB from previously demolished buildings.
3	10/10/02	1402	WM	W	MBK occupies the warehouse structure pictured in Photo 1.
4	10/10/02	1410	WM	SW	A sign advertising lots for sale at NRE. Photo taken in 2002.
5	10/10/02	1412	WM	S	New home construction at the NRE. Photo taken in 2002.
6	10/10/02	1415	WM	N	Former site of the boiler that supplied steam heat to the former military base.
7	10/10/02	1425	WM	W	Retaining wall for a pool at the former military base. A NRE resident's garage is seen in the foreground of the photo.
8	6/10/03	1304	WM	W	Rose City Abatement removing ACM north of the warehouse pictured in Photo 1.
9	6/10/03	1308	WM	Down	Roofing paper impregnated with asbestos observed on the ground at the MBK/NRE site.
10	6/11/03	0951	WM	N	A view of the warehouse siding. Note that it contains CAB.
11	6/11/03	0958	WM	Down	A view of asbestos-impregnated roofing material found in site soil.
12	6/12/03	1319	WM	Down	Red, asbestos-containing, floor tile and CAB observed in site soil.
13	6/17/03	1208	WM	N	PBS crew collecting baseline soil samples for asbestos.
14	7/02/03	0840	WM	SE	Roofing material later removed from resident's property.
15	7/02/03	0956	WM	W	Bagged ACM removed from residential properties.
16	7/23/03	1159	WM	SE	Geopotential, the RP's subcontractor, locating buried steam pipe.
17	7/23/03	1206	WM	N	Excavation conducted to locate buried steam pipe.
18	7/23/03	1205	WM	Down	Steam pipe wrapped in corrugated steel with asbestos insulation observed in test pit.
19	7/28/03	1140	WM	E	GPS locating soil sample locations. Soil samples collected for lead analysis.
20	7/30/03	1144	WM	NW	PBS homogenizing composite soil samples for processing.
21	7/30/03	1149	WM	Down	Coarse material such as rocks and debris removed from composite asbestos soil samples.
22	7/29/03	1551	WM	E	Weighing soil samples during preparation.

PHOTOGRAPH IDENTIFICATION SHEET

Camera Serial No. 183742574 **TDD No. 03-07-0011**
Lens Type: Digital 10X Optical Zoom **Site Name: MBK Partnerhip/NRE Subdivision**

Photo No.	Date	Time	By	Direction	Description
23	7/30/03	1229	WM	S	Soil sample weighed in a jar.
24	7/29/03	1550	WM	E	PBS splitting soil samples as part of composite sample preparation.
25	8/18/03	1023	WM	NW	Conducting outdoor residential air sampling. Sampler is located next to the orange cone.
26	8/18/03	1126	WM	N	Conducting indoor residential air sampling.
27	8/18/03	1335	WM	N	PBS collecting background air samples.
28	8/25/03	1314	WM	NW	A view of an outdoor air sampling station established by the START-2. This sampler is one of six samplers that are part of the air monitoring network.
29	9/15/03	0952	WM	Down	The START-2 conducting residential soil sampling. Samples are for asbestos analysis.
30	9/16/03	1150	WM	S	The START-2 conducting residential soil sampling.
31	9/17/03	1204	VG	SW	The START-2 collecting GPS data at asbestos soil sampling locations.
32	9/29/03	0910	WM	N	Mobile command post provided by United States Coast Guard PST.
33	10/30/03	2000	WM	E	Public meeting held at the county outreach center.
34	10/30/03	2004	WM	E	Audience and speakers at the public meeting.
35	11/03/03	1006	WM	N	Dust collection in one of the NRE subdivision residences.
36	11/05/03	1016	WM	Down	Vacuuming carpet to obtain dust sample from one of the residents' homes.
37	4/27/04	0931	WM	NW	Lead-contaminated soils at the MBK-C property.
38	4/28/04	1043	WM	NW	The START-2 conducting subsurface sampling of lead-contaminated soils.
39	4/28/04	1310	WM	N	Analyzing subsurface soils for metals content with XRF unit.
40	4/28/04	1414	SH	N	The START-2 collecting GPS data for the sampling grid established on lead-contaminated soils.
41	4/28/04	1100	WM	W	View of soil erosion exposing ACM north of the MBK warehouse 10 months after surficial removal had been completed.
42	7/20/04	1131	WM	E	Emptying bucket of dirt during child-play activity-based sampling.
43	7/20/04	1131	WM	S	Meteorological station erected by the START-2 near the study area.
44	7/21/04	0827	WM	E	Weed trimming activity conducted by the START-2 during the activity-based sampling effort.

PHOTOGRAPH IDENTIFICATION SHEET

Camera Serial No. 183742574 **TDD No. 03-07-0011**
Lens Type: Digital 10X Optical Zoom **Site Name: MBK Partnerhip/NRE Subdivision**

Photo No.	Date	Time	By	Direction	Description
45	7/21/04	1104	SH	E	Activity time monitored by assistant with stop watch during weed trimming activity.
46	7/22/04	1231	SH	SE	Soil tilling with gas-powered tiller for activity-based sampling.
47	7/22/04	1302	SH	NE	Dust generated from soil tilling.
48	10/05/04	1319	WM	W	Plastic, soil, and rock cover over erosion prone area north of warehouse.
49	10/06/03	0959	WM	N	Excavating lead-contaminated soil on MBK-C property.
50	10/06/03	1035	WM	E	Excavated lead-contaminated soil is covered pending analytical results for disposal.
51	10/06/03	1319	WM	E	Removing exposed asbestos-covered piping.
52	10/07/03	0925	WM	NW	Wrapping exposed asbestos-insulated steam pipe.
53	10/07/03	1252	WM	N	Debris pile containing ACM is covered with rock to reduce the potential for erosion and exposure.
54	10/08/03	0815	WM	W	Rock covering ACM debris pile prone to erosion.

Key:

ACM = Asbestos containing material.
CAB = Concrete asbestos board.
E = East.
GPS = Global positioning system.
MBK = Melvin Bercot Kenneth Partnership
N = North.
No. = Number.
NRE = North Ridge Estates.
PBS = PBS Engineering and Environmental.
PST = Pacific Strike Team.
RP = Responsible party.
S = South.
SH = Steven Hall.
START = Superfund Technical Assessment and Response Team.
TDD = Technical Direction Document.
VG = Vince Gee.
W = West.
WM = William Mehnert.
XRF = X-ray fluorescence.

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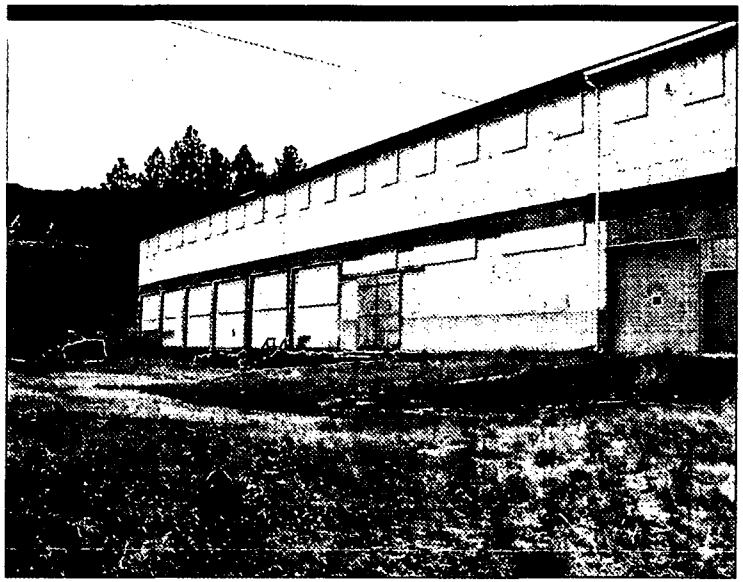

Photo 1 Warehouse structure remaining from the original military base.
Direction: *Southwest*

Photo 2 Broken CAB on warehouse pictured in Photo 1, similar to CAB from previously demolished buildings.
Direction: *West*

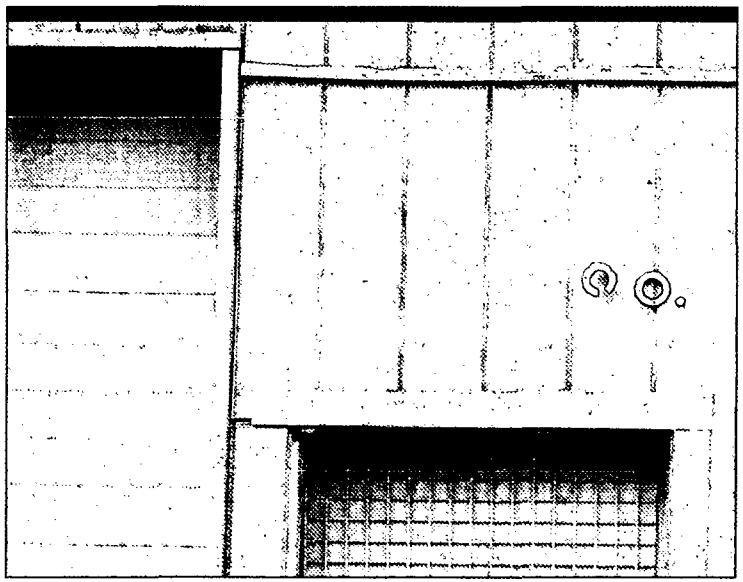

Photo 3 MBK occupies the warehouse structure pictured in Photo 1.
Direction: *West*

Photo 4 A sign advertising lots for sale at NRE.
Photo taken in 2002.
Direction: *Southwest*

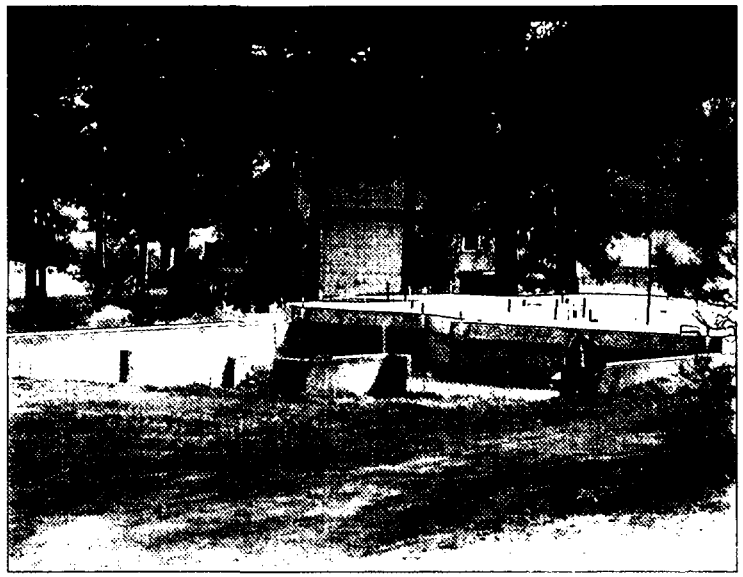

Photo 5 New home construction at the NRE.
Photo taken in 2002.
Direction: *South*

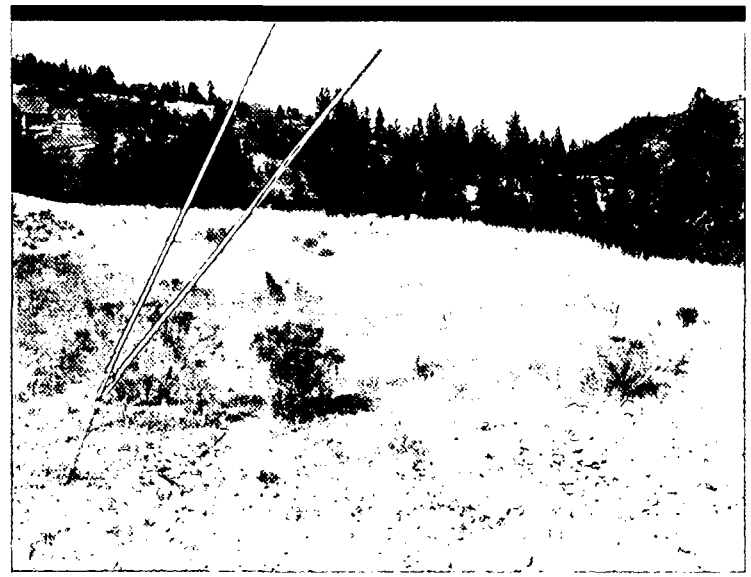

Photo 6 Former site of the boiler that supplied steam heat to the former military base.
Direction: *North*

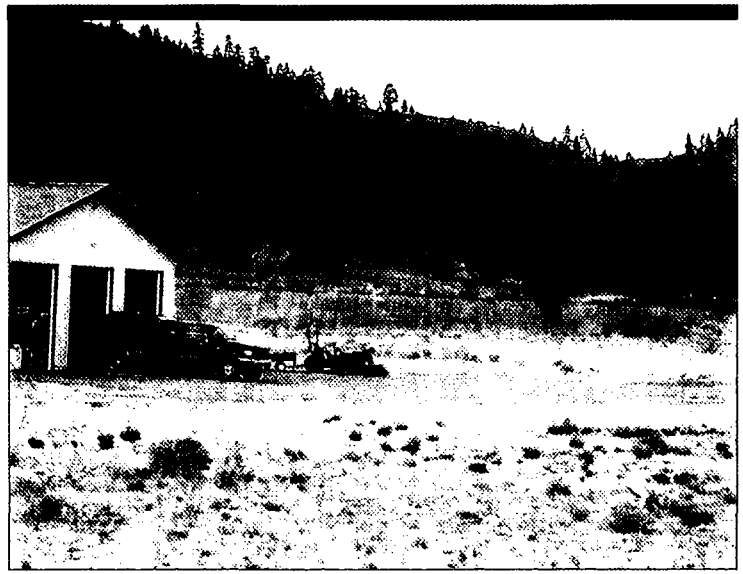

Photo 7 Retaining wall for a pool at the former military base. A NRE resident's garage is seen in the foreground of the photo. *Direction*: *West*

Photo 8 Rose City Abatement removing ACM north of the warehouse pictured in Photo 1.
Direction: *West*

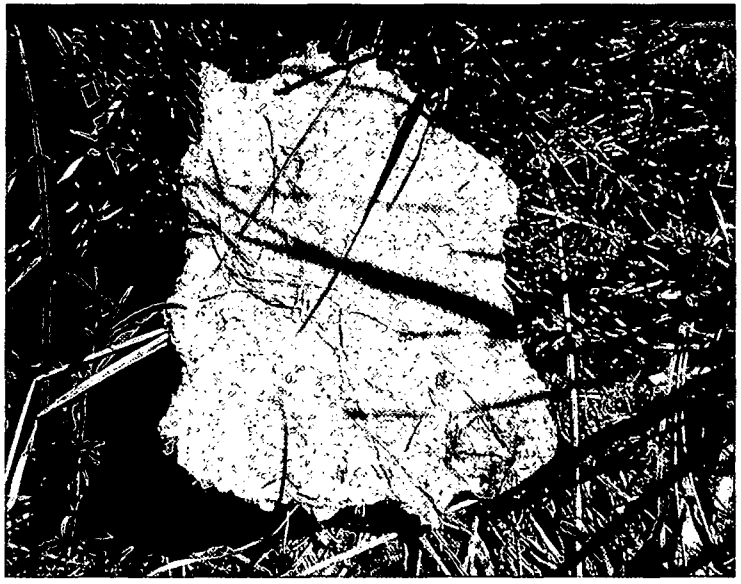

Photo 9 Roofing paper impregnated with asbestos observed on the ground at the MBK/NRE site.
Direction: *Down*

Photo 10 A view of the warehouse siding. Note that it contains CAB.
Direction: *North*

Photo 11 A view of asbestos-impregnated roofing material found in site soil.
Direction: *Down*

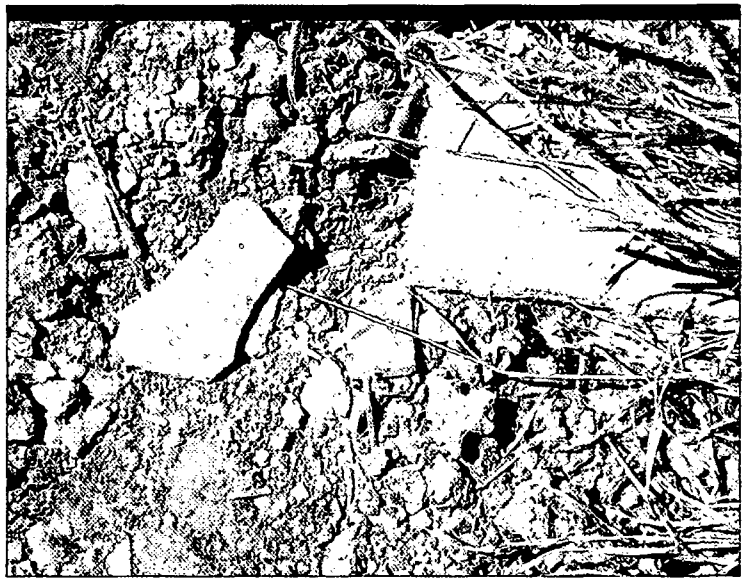

Photo 12 Red, asbestos-containing, floor tile and CAB observed in site soil.
Direction: *Down*

Photo 13 PBS crew collecting baseline soil samples for asbestos.
Direction: *North*

Photo 14 Roofing material later removed from resident's property.
Direction: *Southeast*

Photo 15 Bagged ACM removed from residential properties.
Direction: *West*

Photo 16 Geopotential, the RP's subcontractor, locating buried steam pipe.
Direction: *Southeast*

Photo 17 Excavation conducted to locate buried steam pipe.
Direction: North

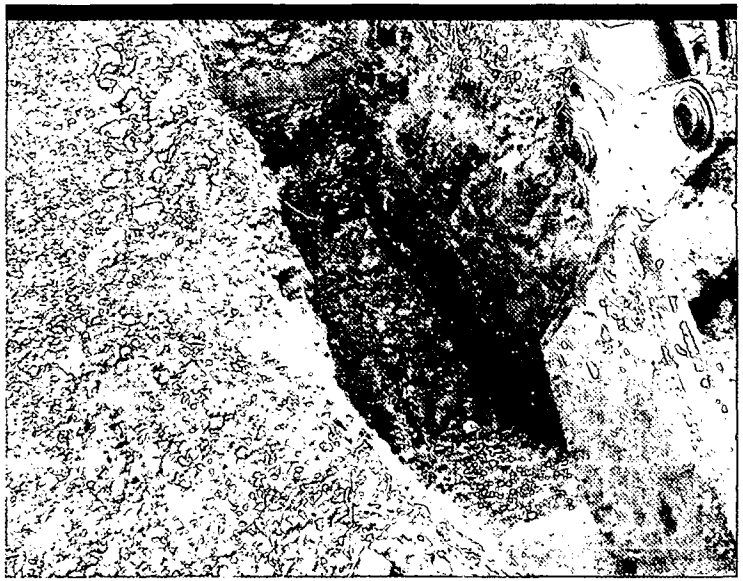

Photo 18 Steam pipe wrapped in corrugated steel with asbestos insulation observed in test pit.
Direction: Down

Photo 19 GPS locating soil sample locations. Soil samples collected for lead analysis.
Direction: East

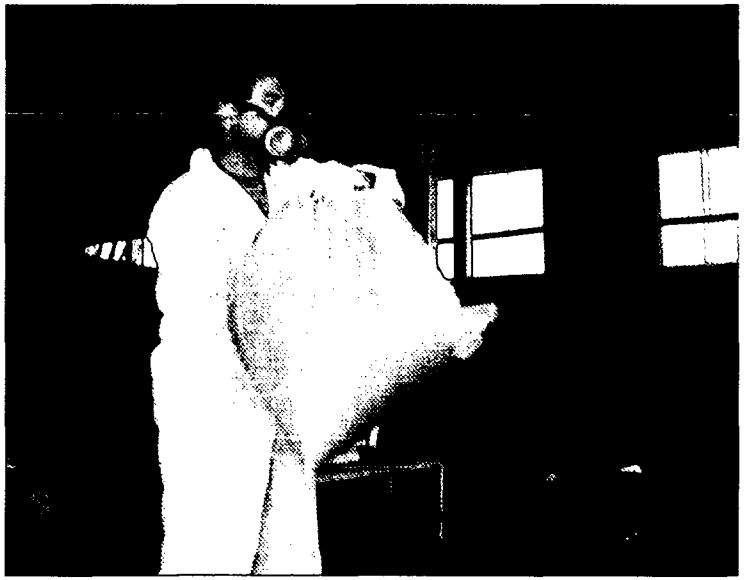

Photo 20 PBS homogenizing composite soil samples for processing.
Direction: Northwest

Photo 21 Coarse material such as rocks and debris removed from composite asbestos soil samples.
Direction: *Down*

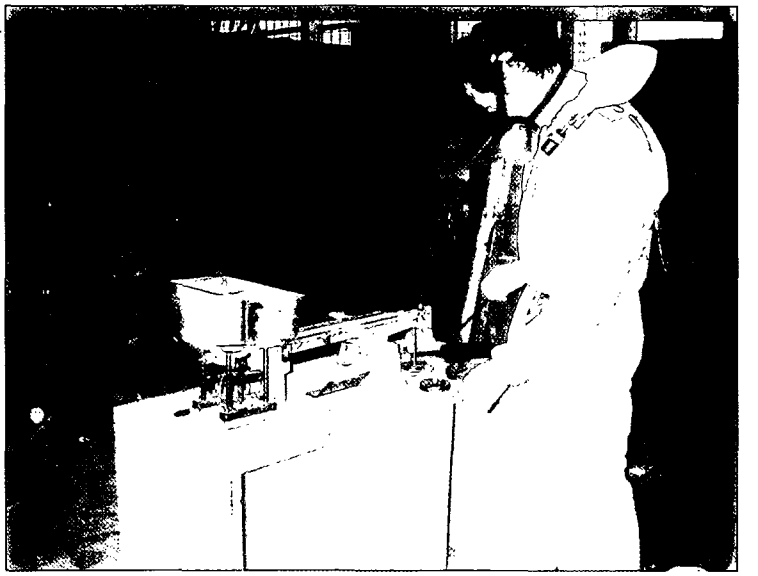

Photo 22 Weighing soil samples during preparation.
Direction: *East*

Photo 23 Soil sample weighed in a jar.
Direction: *South*

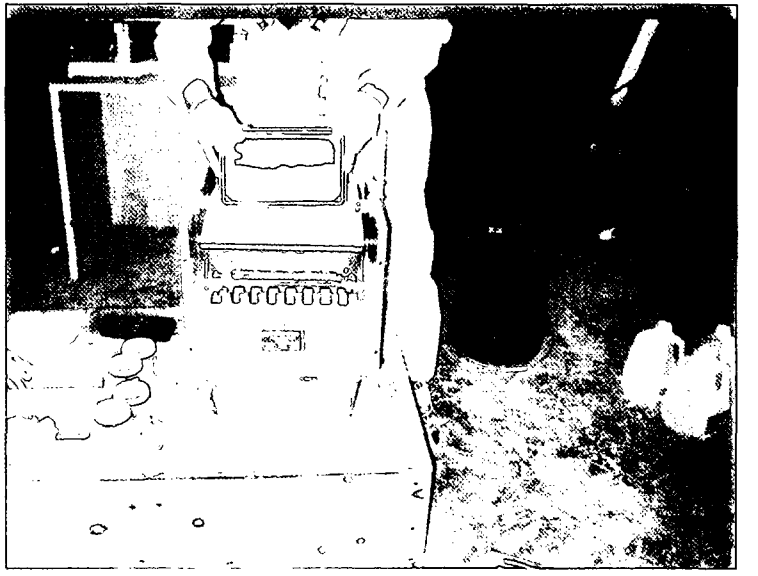

Photo 24 PBS splitting soil samples as part of composite sample preparation.
Direction: *East*

Photo 25 Conducting outdoor residential air sampling. Sampler is located next to the orange cone.
Direction: *Northwest*

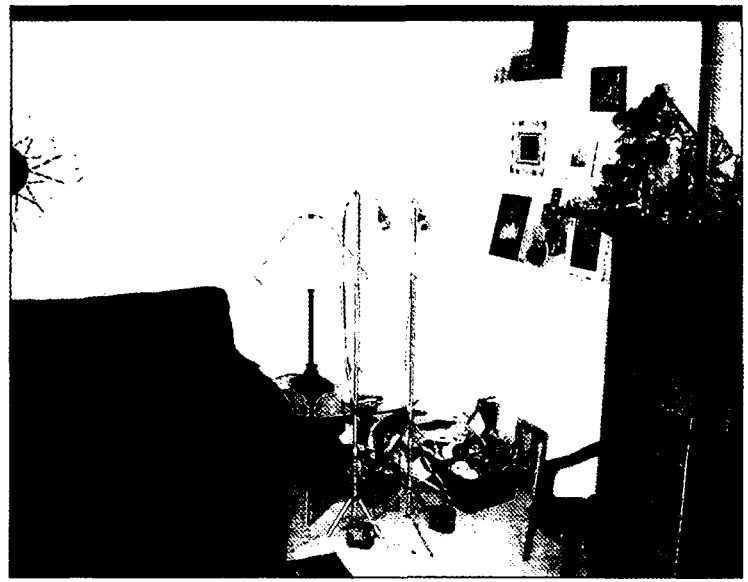

Photo 26 Conducting indoor residential air sampling.
Direction: *North*

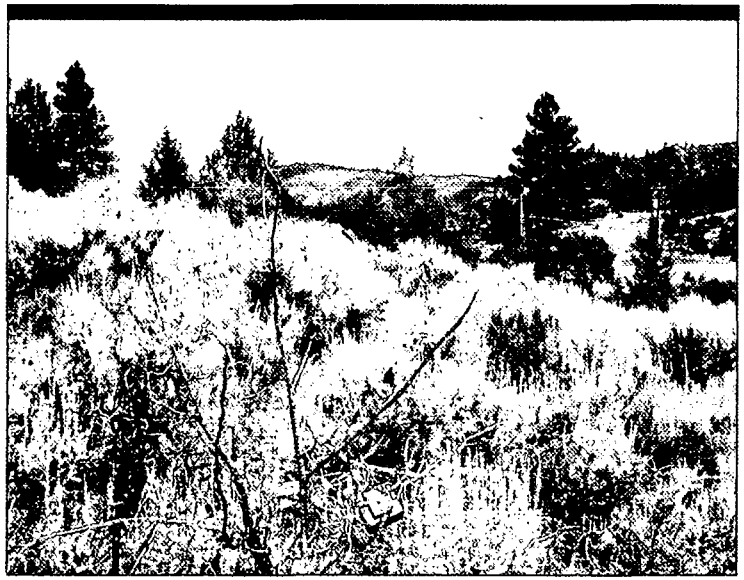

Photo 27 PBS collecting background air samples.
Direction: *North*

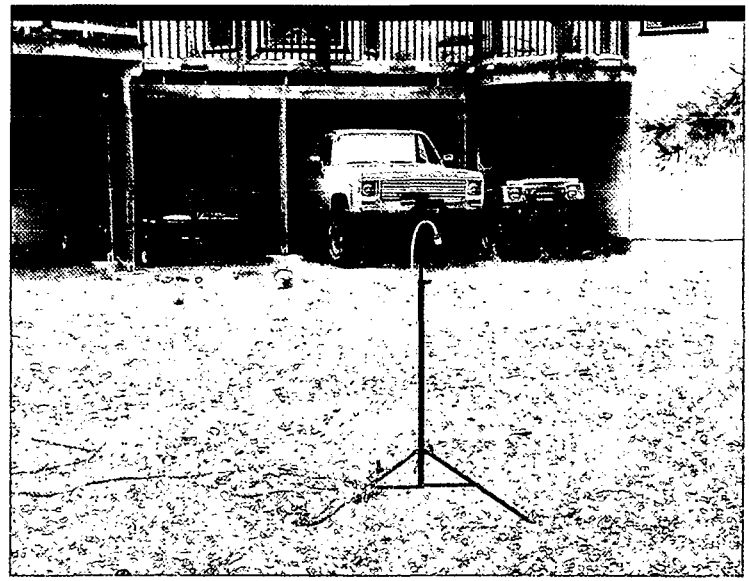

Photo 28 A view of an outdoor air sampling station established by the START-2. This sampler is one of six samplers that are part of the air monitoring network. *Direction*: *Northwest*

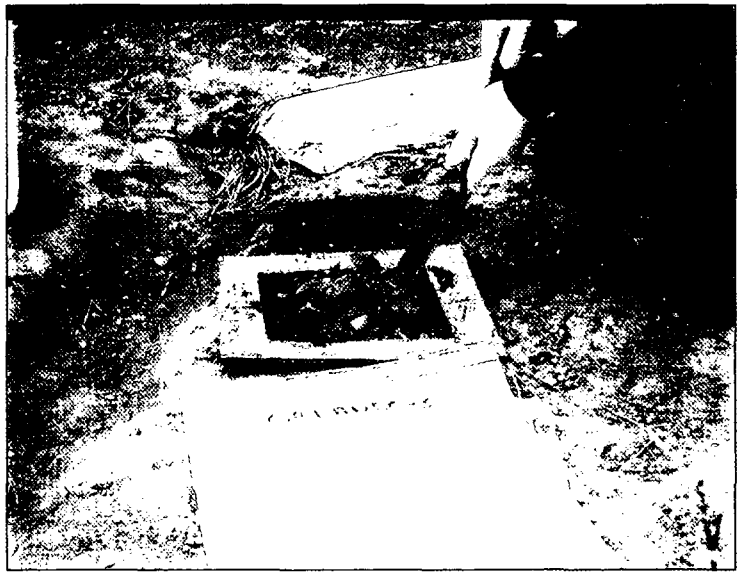

Photo 29 The START-2 conducting residential soil sampling. Samples are for asbestos analysis.
Direction: Down

Photo 30 The START-2 conducting residential soil sampling.
Direction: South

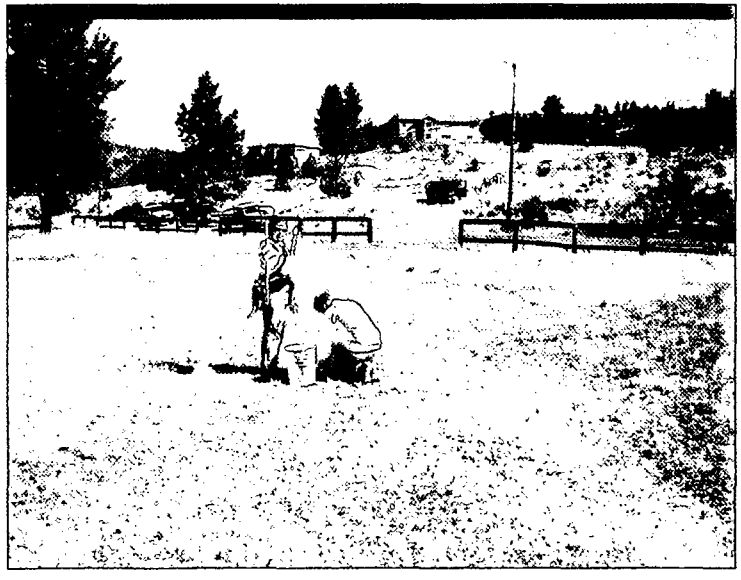

Photo 31 The START-2 collecting GPS data at asbestos soil sampling locations.
Direction: Southwest

Photo 32 Mobile command post provided by United States Coast Guard PST.
Direction: North

Photo 33 Public meeting held at the county outreach center.
Direction: East

Photo 34 Audience and speakers at the public meeting.
Direction: East

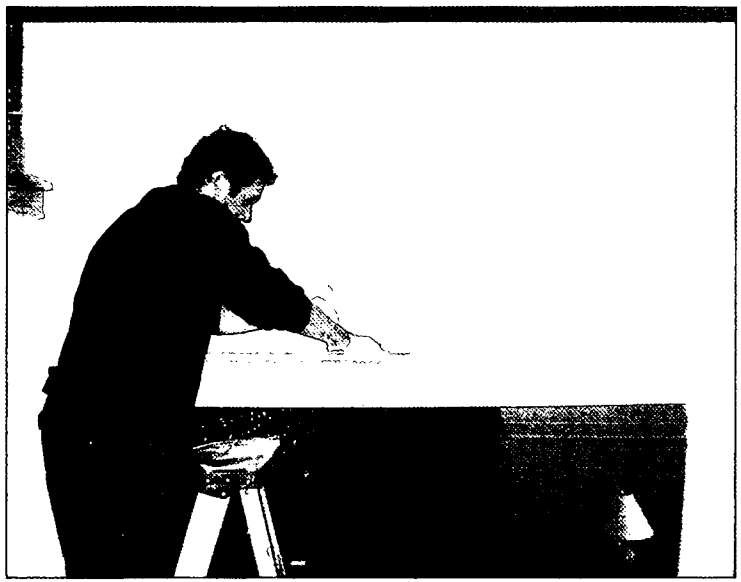

Photo 35 Dust collection in one of the NRE subdivision residences.
Direction: North

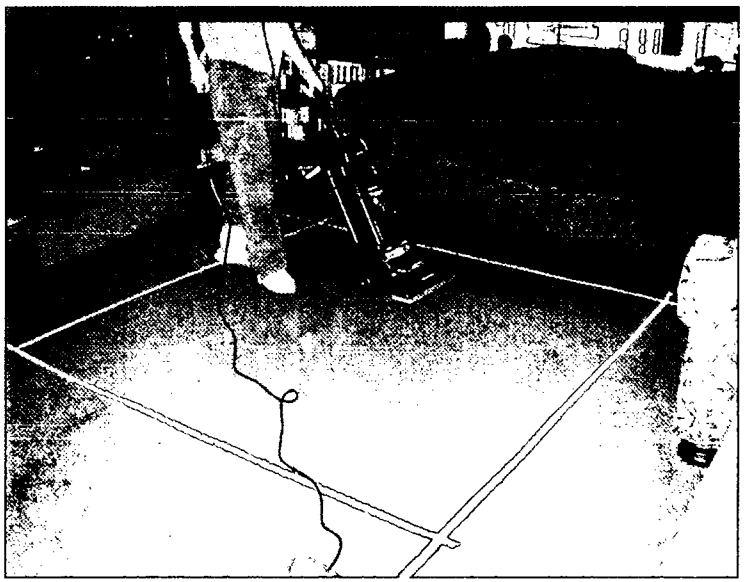

Photo 36 Vacuuming carpet to obtain dust sample from one of the residents' homes.
Direction: Down

Photo 37 Lead-contaminated soils at the MBK-C property.
Direction: Northwest

Photo 38 The START-2 conducting subsurface sampling of lead-contaminated soils.
Direction: Northwest

Photo 39 Analyzing subsurface soils for metals content with XRF unit.
Direction: North

Photo 40 The START-2 collecting GPS data for the sampling grid established on lead-contaminated soils.
Direction: North

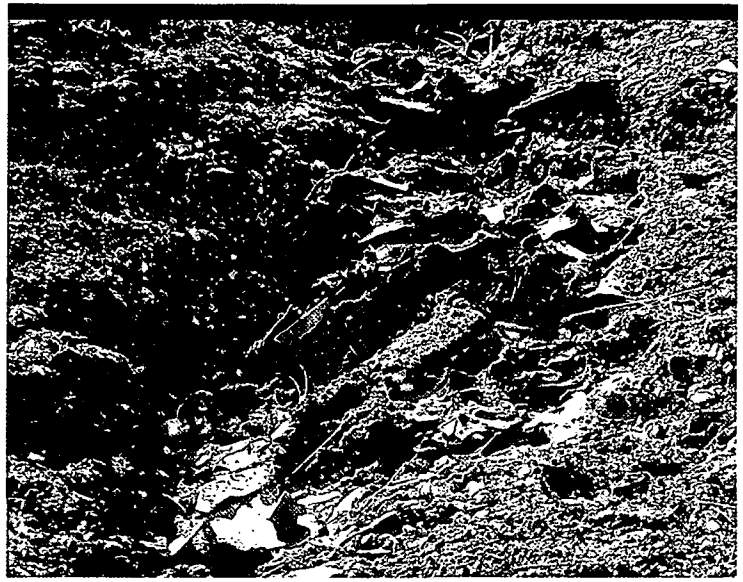

Photo 41 View of soil erosion exposing ACM north of the MBK warehouse 10 months after surficial removal had been completed. *Direction: West*

Photo 42 Emptying bucket of dirt during child play activity-based sampling.
Direction: East

Photo 43 Meteorological station erected by the START-2 near the study area.
Direction: South

Photo 44 Weed trimming activity conducted by the START-2 during the activity-based sampling effort.
Direction: East

Photo 45 Activity time monitored by assistant with stop watch during weed trimming activity.
Direction: East

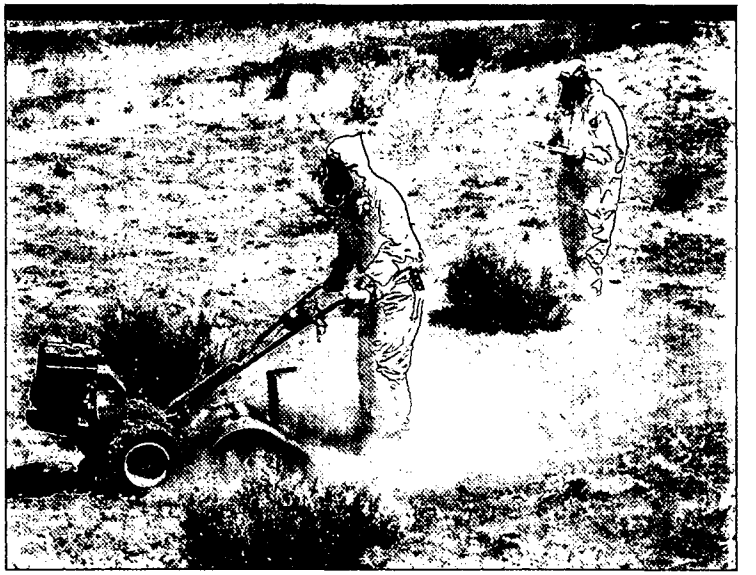

Photo 46 Soil tilling with gas-powered tiller for activity-based sampling.
Direction:Southeast

Photo 47 Dust generated from soil tilling.
Direction: Northeast

Photo 48 Plastic, soil, and rock cover over erosion prone area north of warehouse.
Direction: West

Photo 49 Excavating lead-contaminated soil on MBK-C property.
Direction: *North*

Photo 50 Excavated lead-contaminated soil is covered pending analytical results for disposal.
Direction: *East*

Photo 51 Removing exposed asbestos-covered piping.
Direction: *East*

Photo 52 Wrapping exposed asbestos-insulated steam pipe.
Direction: *Northwest*

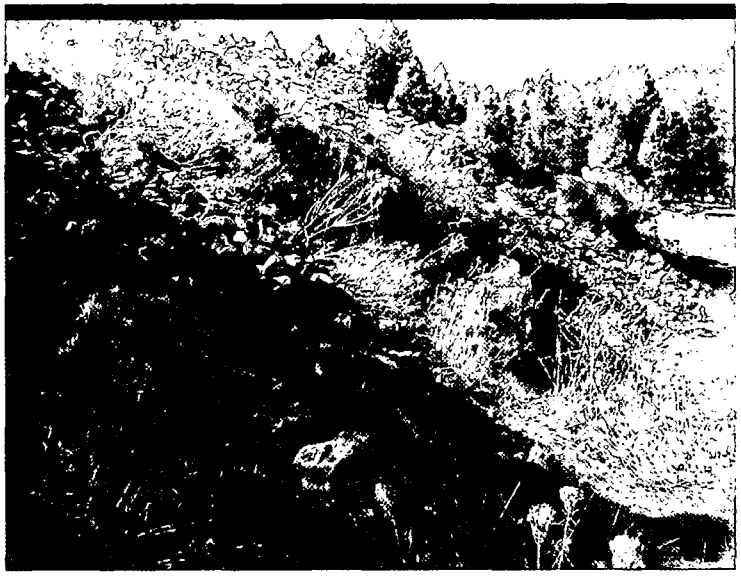

Photo 53 Debris pile containing ACM is covered with rock to reduce the potential for erosion and exposure.
Direction: *North*

Photo 54 Rock covering ACM debris pile prone to erosion.
Direction: *West*

APPENDIX B
DATA VALIDATION MEMORANDA

ecology and environment, inc.
International Specialists in the Environment
2101 Fourth Avenue, Suite 1900, Seattle, WA 98121
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: February 10, 2005

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA

SUBJ: **Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 11 air filter samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Transmission Electron Microscopy (TEM) asbestos analyses following ISO method 10312 were performed by Lab/Cor, Inc., Seattle, Washington. This memo replaces one dated September 15, 2004, due to laboratory correction of some sample results.

The field samples were numbered:

04070004	04070006	04070012	04070014	04070015
04070018	04070019	04070023	04070024	04070025
04070026(lot blank)				

Data Qualifications:

The samples were received at the laboratory on July 26, 2004, and were analyzed by August 30, 2004. The following discrepancies were noted in the laboratory narrative:

Samples 04070002, 04070005, 04070013, 04070017, and 04070021 were rejected for analysis by the laboratory primarily due to upside down filters in the cassettes with visible particulates on the support pads. The filter for sample 04070006 was upside down in the cassette with visible particulates on the support pad; no action was taken based on this discrepancy.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical method.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

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intentionally left blank.

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

October 19, 2004

Ecology and Environment, Inc.
333 SW 5th Avenue
Suite 608
Portland, OR 97204

Attn: Bill Mehnert

Project Name: START-2 Portland OR
Project Number: 001281.0293.01RS
TDD 03-07-0011
P. O. Number: 100066-S10

REVISION SET #2 : REVISION TO LABCOR REPORT 040827, DATED SEPTEMBER 28, 2004

Lab/Cor Batch Number: 040827

Revision #2 An error occurred in calculating PCM equivalent fibers and structures on some samples due to incorrect cell referencing. The cell referencing error did not correctly calculate the aspect ratio and length accordingly for each category. The ISO PCM equivalent minimum width definition was changed to 0.25 µm reflect US standards.

Revision #1 An spreadsheet error was made in calculating the number of protocol structures present in samples 040827-02, -04, and -06. The spreadsheet formula was analyzing only primary structures when considering them as protocol structures. The revision allows total structures to be included in protocol structure counts.

Conditions Enclosed please find results for samples submitted to our laboratory on July 26, 2004. A list of samples received follows, with limitation or rejection criteria noted where applicable.

Lab/Cor Sample No.	Client Sample No.	Limitation/Rejection Criteria
040827-01	04070002	Rejected at prep - Quarter wedge removed before delivery to lab, filter upside down in cassette with visible particulate on support pad
040827-02	04070004	No special conditions were noted
040827-03	04070005	Rejected at prep - Quarter wedge removed before delivery to lab, filter upside down in cassette with visible particulate on support pad
040827-04	04070006	Quarter wedge removed before delivery to lab, filter upside down in cassette with visible particulate on support pad, approved for analysis by client
040827-05	04070012	No special conditions were noted
040827-06	04070013	Quarter wedge removed before delivery to lab, filter upside down in cassette, Not Analyzed
040827-07	04070014	No special conditions were noted
040827-08	04070015	No special conditions were noted
040827-09	04070017	Rejected at prep - Quarter wedge removed before delivery to lab, filter upside down in cassette
040827-10	04070018	No special conditions were noted
040827-11	04070019	No special conditions were noted
040827-12	04070021	Rejected at prep - Quarter wedge removed before delivery to lab, filter upside down in cassette with visible particulate on support pad
040827-13	04070023	No special conditions were noted
040827-14	04070024	No special conditions were noted

Lab/Cor Sample No.	Client Sample No.	Limitation/Rejection Criteria
040827-15	04070025	No special conditions were noted
040827-16	04070026	No special conditions were noted

Method

Preparation and analysis of the above samples was conducted in accordance with the ISO method 10312 (Direct) for the identification of asbestos. Briefly, the samples were collapsed with acetone, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in acetone until cleared of filter debris.

TEM analysis was performed using a transmission electron microscope equipped with an EDS X-ray analyzer. The air samples were analyzed at an approximate screen magnifications of 20,000x for asbestos structures > 0.5 µm lengths. An accelerating voltage of 100 KV was applied. The sizing of grid openings was performed on the microscope at a magnification of approximately 550X.

Counting Rules

	Minimum Aspect Ratio	Minimum Length	Minimum Width	Minimum Required Analytical Sensitivity	Stopping Rules
PCM	3:1	5.0 µm	0.25 - 3.0 µm	NA	100 Structures
Other	5:1	0.5 µm	NA	NA	100 Structures

Disclaimer

This test report relates only to the items tested in this report. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please do not hesitate to call me. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with analytical services.

Sincerely,

John Harris
Laboratory Director

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040827 *Report Date:* October 19, 2004

Client Information	
Project Name:	START-2 Portland OR
Project No.:	001281.0293.01RS
	TDD 03-07-0011
P. O. No.:	100066-S10
Sample Type:	Air

Tracking Information		
Login:	Jul 26, 2004	*By:* DJ
Prep:	Jul 26, 2004	*By:* MQ
Verified:	Jul 26, 2004	*By:* MQ
Reviewed:	Aug 5, 2004	*By:* KM
Final Review:	Sep 8, 2004	*By:* KM
Revision#1:	Sep 28, 2004	*By:* JH
Revision #2:	Oct. 19, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.25 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040827-02	04070004	PRIMARY STRUCTURES	6.77	697.66	562.93 – 832.40	103	6.77	58.8	83	385	0.9667	JH	7/28/04
		ASBESTOS STRUCTURES	6.77	724.76	587.43 – 862.09	107							
Air		ASBESTOS STRUCTURES > 5 µm	6.77	298.03	209.97 – 386.09	44							
		ASB. FIBERS & BUNDLES > 5 µm	6.77	88.05	46.89 – 150.58	13							
		PCM EQUIVALENT STRUCTURES	6.77	47.41	19.06 – 97.69	7							
		PCM EQUIVALENT FIBERS	42.67	42.67	42.67 – 48.94	2							
		PROTOCOL ASB STRUCS 5-10	6.77	67.73	32.48 – 124.57	10							
		PROTOCOL ASB STRUCS >10	6.77	20.32	6.77 – 59.38	3							
		PROTOCOL ASB STRUCS TOTAL	6.77	88.05	46.89 – 150.58	13							
		PROTOCOL CHRYS STRUCS 5-10	6.77	67.73	32.48 – 124.57	10							
		PROTOCOL CHRYS STRUCS >10	6.77	20.32	6.77 – 59.38	3							
		PROTOCOL CHRYS STRUCS TOTAL	6.77	88.05	46.89 – 150.58	13							
		PROTOCOL AMPH STRUCS 5-10	<20.25	<20.25	20.25 – 24.99	0							
		PROTOCOL AMPH STRUCS >10	<20.25	<20.25	20.25 – 24.99	0							
		PROTOCOL AMPH STRUCS TOTAL	<20.25	<20.25	20.25 – 24.99	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040827 *Report Date:* October 19, 2004

Client Information	
Project Name:	START-2 Portland OR
Project No.:	001281.0293.01RS
	TDD 03-07-0011
P. O. No.:	100066-S10
Sample Type:	Air

Tracking Information		
Login:	Jul 26, 2004	*By:* DJ
Prep:	Jul 26, 2004	*By:* MQ
Verified:	Jul 26, 2004	*By:* MQ
Reviewed:	Aug 5, 2004	*By:* KM
Final Review:	Sep 8, 2004	*By:* KM
Revision#1:	Sep 28, 2004	*By:* JH
Revision #2:	Oct. 19, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.25 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040827-04 Air	04070006	PRIMARY STRUCTURES	14.50	1464.27	1178.70 – 1749.85	101	14.50	61.09	30	193	0.4347	KM	8/30/04
		ASBESTOS STRUCTURES	14.50	1493.27	1204.88 – 1781.66	103							
		ASBESTOS STRUCTURES > 5 µm	14.50	550.91	375.75 – 726.08	38							
		ASB. FIBERS & BUNDLES > 5 µm	14.50	86.99	31.92 – 189.34	6							
		PCM EQUIVALENT STRUCTURES	14.50	57.99	15.80 – 148.49	4							
		PCM EQUIVALENT FIBERS	68.72	68.72	68.72 – 80.78	1							
		PROTOCOL ASB STRUCS 5-10	14.50	86.99	31.92 – 189.34	6							
		PROTOCOL ASB STRUCS >10	<43.35	<43.35 U	43.35 – 53.48	0							
		PROTOCOL ASB STRUCS TOTAL	14.50	86.99	31.92 – 189.34	6							
		PROTOCOL CHRYS STRUCS 5-10	<43.35	<43.35 U	43.35 – 53.48	0							
		PROTOCOL CHRYS STRUCS >10	<43.35	<43.35	43.35 – 53.48	0							
		PROTOCOL CHRYS STRUCS TOTAL	<43.35	<43.35	43.35 – 53.48	0							
		PROTOCOL AMPH STRUCS 5-10	<43.35	<43.35	43.35 – 53.48	0							
		PROTOCOL AMPH STRUCS >10	<43.35	<43.35	43.35 – 53.48	0							
		PROTOCOL AMPH STRUCS TOTAL	<43.35	<43.35	43.35 – 53.48	0							

8-30-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040827 *Report Date:* October 19, 2004

Client Information	
Project Name:	START-2 Portland OR
Project No.:	001281.0293.01RS
	TDD 03-07-0011
P. O. No.:	100066-S10
Sample Type:	Air

Tracking Information		
Login:	Jul 26, 2004	*By:* DJ
Prep:	Jul 26, 2004	*By:* MQ
Verified:	Jul 26, 2004	*By:* MQ
Reviewed:	Aug 5, 2004	*By:* KM
Final Review:	Sep 8, 2004	*By:* KM
Revision#1:	Sep 28, 2004	*By:* JH
Revision #2:	Oct. 19, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.25 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040827-05	04070012	PRIMARY STRUCTURES	3.05	112.74	76.41 – 149.07	37	3.05	105.06	83	385	1.2027	KM	8/1/04
		ASBESTOS STRUCTURES	3.05	127.98	89.27 – 166.68	42							
Air		ASBESTOS STRUCTURES > 5 µm	3.05	39.61	21.09 – 67.74	13							
		ASB. FIBERS & BUNDLES > 5 µm	19.20	19.20	19.20 – 22.01	2							
		PCM EQUIVALENT STRUCTURES	3.05	12.19	3.32 – 31.21	4							
		PCM EQUIVALENT FIBERS	14.44	14.44	14.44 – 16.98	1							
		PROTOCOL ASB STRUCS 5-10	3.05	3.05	3.05 – 16.98	1							
		PROTOCOL ASB STRUCS >10	9.11	<9.11 U	9.11 – 11.24	0							
		PROTOCOL ASB STRUCS TOTAL	3.05	3.05	3.05 – 16.98	1							
		PROTOCOL CHRYS STRUCS 5-10	3.05	3.05	3.05 – 16.98	1							
		PROTOCOL CHRYS STRUCS >10	9.11	<9.11 U	9.11 – 11.24	0							
		PROTOCOL CHRYS STRUCS TOTAL	3.05	3.05	3.05 – 16.98	1							
		PROTOCOL AMPH STRUCS 5-10	9.11	<9.11 U	9.11 – 11.24	0							
		PROTOCOL AMPH STRUCS >10	9.11	<9.11 U	9.11 – 11.24	0							
		PROTOCOL AMPH STRUCS TOTAL	9.11	<9.11 U	9.11 – 11.24	0							

S0-02-2 MW

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040827 *Report Date:* October 19, 2004

Client Information	
Project Name:	START-2 Portland OR
Project No.:	001281.0293.01RS
	TDD 03-07-0011
P. O. No.:	100066-S10
Sample Type:	Air

Tracking Information		
Login:	Jul 26, 2004	*By:* DJ
Prep:	Jul 26, 2004	*By:* MQ
Verified:	Jul 26, 2004	*By:* MQ
Reviewed:	Aug 5, 2004	*By:* KM
Final Review:	Sep 8, 2004	*By:* KM
Revision#1:	Sep 28, 2004	*By:* JH
Revision #2:	Oct. 19, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.25 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040827-07	04070014	PRIMARY STRUCTURES	2.93	52.67	31.21 – 83.24	18	2.93	112.11	81	385	1.1737	KM	8/2/04
		ASBESTOS STRUCTURES	2.93	52.67	31.21 – 83.24	18							
Air		ASBESTOS STRUCTURES > 5 µm	2.93	26.33	12.04 – 49.99	9							
		ASB. FIBERS & BUNDLES > 5 µm	22.68	22.68	22.68 – 25.65	3							
		PCM EQUIVALENT STRUCTURES	18.43	18.43	18.43 – 21.14	2							
		PCM EQUIVALENT FIBERS	8.75	<8.75 U	8.75 – 10.79	0							
		PROTOCOL ASB STRUCS 5-10	2.93	5.85	2.93 – 21.14	2							
		PROTOCOL ASB STRUCS >10	2.93	2.93	2.93 – 16.30	1							
		PROTOCOL ASB STRUCS TOTAL	2.93	8.78	2.93 – 25.65	3							
		PROTOCOL CHRYS STRUCS 5-10	2.93	5.85	2.93 – 21.14	2							
		PROTOCOL CHRYS STRUCS >10	2.93	2.93	2.93 – 16.30	1							
		PROTOCOL CHRYS STRUCS TOTAL	2.93	8.78	2.93 – 25.65	3							
		PROTOCOL AMPH STRUCS 5-10	8.75	<8.75	8.75 – 10.79	0							
		PROTOCOL AMPH STRUCS >10	8.75	<8.75	8.75 – 10.79	0							
		PROTOCOL AMPH STRUCS TOTAL	8.75	<8.75	8.75 – 10.79	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040827

Report Date: October 19, 2004

Client Information	
Project Name:	START-2 Portland OR
Project No.:	001281.0293.01RS
	TDD 03-07-0011
P. O. No.:	100066-S10
Sample Type:	Air

Tracking Information		
Login:	Jul 26, 2004	*By:* DJ
Prep:	Jul 26, 2004	*By:* MQ
Verified:	Jul 26, 2004	*By:* MQ
Reviewed:	Aug 5, 2004	*By:* KM
Final Review:	Sep 8, 2004	*By:* KM
Revision#1:	Sep 28, 2004	*By:* JH
Revision #2:	Oct. 19, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.25 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040827-08	04070015	PRIMARY STRUCTURES	3.12	193.73	145.50 – 241.95	62	3.12	103.70	82	385	1.1882	KM	8/3/04
		ASBESTOS STRUCTURES	3.12	215.60	164.73 – 266.47	69							
Air		ASBESTOS STRUCTURES > 5 µm	3.12	106.24	70.53 – 141.95	34							
		ASB. FIBERS & BUNDLES > 5 µm	3.12	43.74	23.92 – 73.40	14							
		PCM EQUIVALENT STRUCTURES	3.12	18.75	6.88 – 40.81	5							
		PCM EQUIVALENT FIBERS	19.69	19.69	19.69 – 22.58	2							
		PROTOCOL ASB STRUCS 5-10	3.12	28.12	12.86 – 53.38	9							
		PROTOCOL ASB STRUCS >10	3.12	15.62	5.07 – 36.46	5							
		PROTOCOL ASB STRUCS TOTAL	3.12	43.74	23.92 – 73.40	14							
		PROTOCOL CHRYS STRUCS 5-10	3.12	28.12	12.86 – 53.38	9							
		PROTOCOL CHRYS STRUCS >10	3.12	15.62	5.07 – 36.46	5							
		PROTOCOL CHRYS STRUCS TOTAL	3.12	43.74	23.92 – 73.40	14							
		PROTOCOL AMPH STRUCS 5-10	9.34	<3.12 U	9.34 – 11.53	0							
		PROTOCOL AMPH STRUCS >10	9.34	<3.12 U	9.34 – 11.53	0							
		PROTOCOL AMPH STRUCS TOTAL	9.34	<3.12 U	9.34 – 11.53	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040827 *Report Date:* October 19, 2004

Client Information	
Project Name:	START-2 Portland OR
Project No.:	001281.0293.01RS
	TDD 03-07-0011
P. O. No.:	100066-S10
Sample Type:	Air

Tracking Information		
Login:	Jul 26, 2004	*By:* DJ
Prep:	Jul 26, 2004	*By:* MQ
Verified:	Jul 26, 2004	*By:* MQ
Reviewed:	Aug 5, 2004	*By:* KM
Final Review:	Sep 8, 2004	*By:* KM
Revision#1:	Sep 28, 2004	*By:* JH
Revision #2:	Oct. 19, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.25 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040827-10	04070018	PRIMARY STRUCTURES	3.32	208.87	157.29 – 260.45	63	3.32	82.62	97	385	1.4055	KM	8/4/04
		ASBESTOS STRUCTURES	3.32	222.13	168.94 – 275.32	67							
Air		ASBESTOS STRUCTURES > 5 µm	3.32	69.62	43.10 – 106.43	21							
		ASB. FIBERS & BUNDLES > 5 µm	3.32	13.26	3.61 – 33.96	4							
		PCM EQUIVALENT STRUCTURES	25.69	25.69	25.69 – 29.07	3							
		PCM EQUIVALENT FIBERS	9.91	<9.91 U	9.91 – 12.23	0							
		PROTOCOL ASB STRUCS 5-10	3.32	13.26	3.61 – 33.96	4							
		PROTOCOL ASB STRUCS >10	9.91	<9.91 U	9.91 – 12.23	0							
		PROTOCOL ASB STRUCS TOTAL	3.32	13.26	3.61 – 33.96	4							
		PROTOCOL CHRYS STRUCS 5-10	3.32	13.26	3.61 – 33.96	4							
		PROTOCOL CHRYS STRUCS >10	9.91	<9.91 U	9.91 – 12.23	0							
		PROTOCOL CHRYS STRUCS TOTAL	3.32	13.26	3.61 – 33.96	4							
		PROTOCOL AMPH STRUCS 5-10	9.91	<9.91 U	9.91 – 12.23	0							
		PROTOCOL AMPH STRUCS >10	9.91	<9.91 U	9.91 – 12.23	0							
		PROTOCOL AMPH STRUCS TOTAL	9.91	<9.91 U	9.91 – 12.23	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040827 *Report Date:* October 19, 2004

Client Information	
Project Name:	START-2 Portland OR
Project No.:	001281.0293.01RS
	TDD 03-07-0011
P. O. No.:	100066-S10
Sample Type:	Air

Tracking Information		
Login:	Jul 26, 2004	*By:* DJ
Prep:	Jul 26, 2004	*By:* MQ
Verified:	Jul 26, 2004	*By:* MQ
Reviewed:	Aug 5, 2004	*By:* KM
Final Review:	Sep 8, 2004	*By:* KM
Revision#1:	Sep 28, 2004	*By:* JH
Revision #2:	Oct. 19, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.25 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040827-11	04070019	PRIMARY STRUCTURES	3.34	203.50	152.43 – 254.57	61	3.34	81.27	98	385	1.4200	DW/KM	8/4/04
		ASBESTOS STRUCTURES	3.34	240.20	184.71 – 295.68	72							
Air		ASBESTOS STRUCTURES > 5 µm	3.34	86.74	56.66 – 127.09	26							
		ASB. FIBERS & BUNDLES > 5 µm	3.34	13.34	3.64 – 34.17	4							
		PCM EQUIVALENT STRUCTURES	21.02	21.02	21.02 – 24.10	2							
		PCM EQUIVALENT FIBERS	9.97	<9.97 U	9.97 – 12.31	0							
		PROTOCOL ASB STRUCS 5-10	3.34	13.34	3.64 – 34.17	4							
		PROTOCOL ASB STRUCS >10	9.97	<9.97 U	9.97 – 12.31	0							
		PROTOCOL ASB STRUCS TOTAL	3.34	13.34	3.64 – 34.17	4							
		PROTOCOL CHRYS STRUCS 5-10	3.34	10.01	3.64 – 29.25	3							
		PROTOCOL CHRYS STRUCS >10	9.97	<9.97 U	9.97 – 12.31	0							
		PROTOCOL CHRYS STRUCS TOTAL	3.34	10.01	3.64 – 29.25	3							
		PROTOCOL AMPH STRUCS 5-10	9.97	<9.97 U	9.97 – 12.31	0							
		PROTOCOL AMPH STRUCS >10	9.97	<9.97 U	9.97 – 12.31	0							
		PROTOCOL AMPH STRUCS TOTAL	9.97	<9.97 U	9.97 – 12.31	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040827 *Report Date:* October 19, 2004

Client Information	
Project Name:	START-2 Portland OR
Project No.:	001281.0293.01RS
	TDD 03-07-0011
P. O. No.:	100066-S10
Sample Type:	Air

Tracking Information		
Login:	Jul 26, 2004	*By:* DJ
Prep:	Jul 26, 2004	*By:* MQ
Verified:	Jul 26, 2004	*By:* MQ
Reviewed:	Aug 5, 2004	*By:* KM
Final Review:	Sep 8, 2004	*By:* KM
Revision#1:	Sep 28, 2004	*By:* JH
Revision #2:	Oct. 19, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.25 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040827-13	04070023	PRIMARY STRUCTURES	9.63	9.63	9.63 – 11.32	1	2.03	4702.5	4	385	0.0403	KM	7/27/04
		ASBESTOS STRUCTURES	9.63	9.63	9.63 – 11.32	1							
Air		ASBESTOS STRUCTURES > 5 µm	9.63	9.63	9.63 – 11.32	1							
		ASB. FIBERS & BUNDLES > 5 µm	6.07	<6.07	6.07 – 7.49	0							
		PCM EQUIVALENT STRUCTURES	6.07	<6.07	6.07 – 7.49	0							
		PCM EQUIVALENT FIBERS	6.07	<6.07	6.07 – 7.49	0							
		PROTOCOL ASB STRUCS 5-10	6.07	<6.07	6.07 – 7.49	0							
		PROTOCOL ASB STRUCS >10	6.07	<6.07	6.07 – 7.49	0							
		PROTOCOL ASB STRUCS TOTAL	6.07	<6.07	6.07 – 7.49	0							
		PROTOCOL CHRYS STRUCS 5-10	6.07	<6.07	6.07 – 7.49	0							
		PROTOCOL CHRYS STRUCS >10	6.07	<6.07	6.07 – 7.49	0							
		PROTOCOL CHRYS STRUCS TOTAL	6.07	<6.07	6.07 – 7.49	0							
		PROTOCOL AMPH STRUCS 5-10	6.07	<6.07	6.07 – 7.49	0							
		PROTOCOL AMPH STRUCS >10	6.07	<6.07	6.07 – 7.49	0							
		PROTOCOL AMPH STRUCS TOTAL	6.07	<6.07	6.07 – 7.49	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040827 *Report Date:* October 19, 2004

Client Information	
Project Name:	START-2 Portland OR
Project No.:	001281.0293.01RS
	TDD 03-07-0011
P. O. No.:	100066-S10
Sample Type:	Air

Tracking Information		
Login:	Jul 26, 2004	*By:* DJ
Prep:	Jul 26, 2004	*By:* MQ
Verified:	Jul 26, 2004	*By:* MQ
Reviewed:	Aug 5, 2004	*By:* KM
Final Review:	Sep 8, 2004	*By:* KM
Revision#1:	Sep 28, 2004	*By:* JH
Revision #2:	Oct. 19, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.25 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040827-14	04070024	PRIMARY STRUCTURES	<5.29	<5.29	5.29 – 6.53	0	1.77	5400	4	385	0.0403	KM	7/27/04
		ASBESTOS STRUCTURES	<5.29	<5.29	5.29 – 6.53	0							
Air		ASBESTOS STRUCTURES > 5 µm	<5.29	<5.29	5.29 – 6.53	0							
		ASB. FIBERS & BUNDLES > 5 µm	<5.29	<5.29	5.29 – 6.53	0							
		PCM EQUIVALENT STRUCTURES	<5.29	<5.29	5.29 – 6.53	0							
		PCM EQUIVALENT FIBERS	<5.29	<5.29	5.29 – 6.53	0							
		PROTOCOL ASB STRUCS 5-10	1.77	<1.77	1.77 – 6.53	0							
		PROTOCOL ASB STRUCS >10	1.77	<1.77	1.77 – 6.53	0							
		PROTOCOL ASB STRUCS TOTAL	1.77	<1.77	1.77 – 6.53	0							
		PROTOCOL CHRYS STRUCS 5-10	1.77	<1.77	1.77 – 6.53	0							
		PROTOCOL CHRYS STRUCS >10	1.77	<1.77	1.77 – 6.53	0							
		PROTOCOL CHRYS STRUCS TOTAL	1.77	<1.77	1.77 – 6.53	0							
		PROTOCOL AMPH STRUCS 5-10	1.77	<1.77	1.77 – 6.53	0							
		PROTOCOL AMPH STRUCS >10	1.77	<1.77	1.77 – 6.53	0							
		PROTOCOL AMPH STRUCS TOTAL	1.77	<1.77	1.77 – 6.53	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040827 *Report Date:* October 19, 2004

Client Information	
Project Name:	START-2 Portland OR
Project No.:	001281.0293.01RS
	TDD 03-07-0011
P. O. No.:	100066-S10
Sample Type:	Air

Tracking Information		
Login:	Jul 26, 2004	*By:* DJ
Prep:	Jul 26, 2004	*By:* MQ
Verified:	Jul 26, 2004	*By:* MQ
Reviewed:	Aug 5, 2004	*By:* KM
Final Review:	Sep 8, 2004	*By:* KM
Revision#1:	Sep 28, 2004	*By:* JH
Revision #2:	Oct. 19, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.25 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040827-15	04070025	PRIMARY STRUCTURES	6.53	<6.53	6.53 – 8.18	0	2.22	4310	4	385	0.0403	KM	7/27/04
		ASBESTOS STRUCTURES	6.53	<6.53	6.53 – 8.18	0							
Air		ASBESTOS STRUCTURES > 5 µm	6.53	<6.53	6.53 – 8.18	0							
		ASB. FIBERS & BUNDLES > 5 µm	6.53	<6.53	6.53 – 8.18	0							
		PCM EQUIVALENT STRUCTURES	6.53	<6.53	6.53 – 8.18	0							
		PCM EQUIVALENT FIBERS	6.53	<6.53	6.53 – 8.18	0							
		PROTOCOL ASB STRUCS 5-10	2.22	<2.22	2.22 – 8.18	0							
		PROTOCOL ASB STRUCS >10	2.22	<2.22	2.22 – 8.18	0							
		PROTOCOL ASB STRUCS TOTAL	2.22	<2.22	2.22 – 8.18	0							
		PROTOCOL CHRYS STRUCS 5-10	2.22	<2.22	2.22 – 8.18	0							
		PROTOCOL CHRYS STRUCS >10	2.22	<2.22	2.22 – 8.18	0							
		PROTOCOL CHRYS STRUCS TOTAL	2.22	<2.22	2.22 – 8.18	0							
		PROTOCOL AMPH STRUCS 5-10	2.22	<2.22	2.22 – 8.18	0							
		PROTOCOL AMPH STRUCS >10	2.22	<2.22	2.22 – 8.18	0							
		PROTOCOL AMPH STRUCS TOTAL	2.22	<2.22	2.22 – 8.18	0							

MV 7-30-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040827 *Report Date:* October 19, 2004

Client Information	
Project Name:	START-2 Portland OR
Project No.:	001281.0293.01RS
	TDD 03-07-0011
P. O. No.:	100066-S10
Sample Type:	Air

Tracking Information		
Login:	Jul 26, 2004	*By:* DJ
Prep:	Jul 26, 2004	*By:* MQ
Verified:	Jul 26, 2004	*By:* MQ
Reviewed:	Aug 5, 2004	*By:* KM
Final Review:	Sep 8, 2004	*By:* KM
Revision#1:	Sep 28, 2004	*By:* JH
Revision #2:	Oct. 19, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.25 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040827-16	04070026	PRIMARY STRUCTURES	NA	NA	NA	0	NA	0	10	385	0.01007	KM	7/27/04
		ASBESTOS STRUCTURES	NA	NA	NA	0							
Air		ASBESTOS STRUCTURES > 5 µm	NA	NA	NA	0							
		ASB. FIBERS & BUNDLES > 5 µm	NA	NA	NA	0							
		PCM EQUIVALENT STRUCTURES	NA	NA	NA	0							
		PCM EQUIVALENT FIBERS	NA	NA	NA	0							
		PROTOCOL ASB STRUCS 5-10	NA	NA	NA	0							
		PROTOCOL ASB STRUCS >10	NA	NA	NA	0							
		PROTOCOL ASB STRUCS TOTAL	NA	NA	NA	0							
		PROTOCOL CHRYS STRUCS 5-10	NA	NA	NA	0							
		PROTOCOL CHRYS STRUCS >10	NA	NA	NA	0							
		PROTOCOL CHRYS STRUCS TOTAL	NA	NA	NA	0							
		PROTOCOL AMPH STRUCS 5-10	NA	NA	NA	0							
		PROTOCOL AMPH STRUCS >10	NA	NA	NA	0							
		PROTOCOL AMPH STRUCS TOTAL	NA	NA	NA	0							

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ecology and environment, inc.
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2101 Fourth Avenue, Suite 1900, Seattle, WA 98121
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MEMORANDUM

DATE: September 3, 2003

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA MW

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 10 air cassette samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Asbestos analyses modified (EPA Method 68-02-3266 Yamate Level 2 [AHERA-Like]) were performed by Lab/Cor, Inc., Seattle, Washington.

The samples were numbered:

03080014	03080015	03080016	03080017	03080018
03080019	03080020	03080021	03080022	03080023

Data Qualifications:

The samples were collected on August 20 or 22, 2003, and were analyzed by August 27, 2003. There were no detections in any field samples.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical method.

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Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 030912

Report Date: August 29, 2003

Client Information	
Project Name:	Klamath Falls OR
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Aug 25, 2003	*By:* DJ
Prep:	Aug 25, 2003	*By:* KM
Verified:	Aug 25, 2003	*By:* KM
Reviewed:	Aug 27, 2003	*By:* KM
Final Review:	Aug 29, 2003	*By:* JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 µm
Min. Width:	NA

MW 9-3-03

FINAL TABLE

Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
030912-01	J067749	Air Sample 03080014	**TOTAL ASBESTOS**	**0**	**<0.001** U	**0 - 0.005**	**0**	0.001	1998.0	10	385	0.1449	KM	8/26/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							
030912-02	J067747	Air Sample 03080015	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	1807.0	10	385	0.1449	KM	8/26/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							
030912-03	J067757	Air Sample 03080016	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	1855.0	10	385	0.1449	KM	8/26/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							
030912-04	J067745	Air Sample 03080017	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	1833.0	10	385	0.1449	KM	8/26/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							
030912-05	J067759	Air Sample 03080018	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	1799.0	10	385	0.1449	KM	8/26/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							
030912-06	J067753	Air Sample 03080019	**TOTAL ASBESTOS**	**0**	**<0.002**	**0 - 0.006**	**0**	0.002	1724.0	10	385	0.1449	KM	8/27/03
Test			ASBESTOS >= 5 µm	0	<0.002	0 - 0.006	0							
			NON-ASBESTOS	0	<0.002	0 - 0.006	0							
030912-07	J067761	Air Sample 03080020	**TOTAL ASBESTOS**	**0**	**<0.002**	**0 - 0.006**	**0**	0.002	1678.0	10	385	0.1449	KM	8/27/03
Test			ASBESTOS >= 5 µm	0	<0.002	0 - 0.006	0							
			NON-ASBESTOS	0	<0.002	0 - 0.006	0							
030912-08	J067762	Air Sample 03080021	**TOTAL ASBESTOS**	**0**	**<0.002**	**0 - 0.006**	**0**	0.002	1632.0	10	385	0.1449	KM	8/27/03
Test			ASBESTOS >= 5 µm	0	<0.002	0 - 0.006	0							
			NON-ASBESTOS	0	<0.002	0 - 0.006	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 030912 *Report Date:* August 29, 2003

Client Information	
Project Name:	Klamath Falls OR
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Aug 25, 2003	*By:* DJ
Prep:	Aug 25, 2003	*By:* KM
Verified:	Aug 25, 2003	*By:* KM
Reviewed:	Aug 27, 2003	*By:* KM
Final Review:	Aug 29, 2003	*By:* JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 μm
Min. Width:	NA

MMQ 3-03

FINAL TABLE

Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
030912-09	J067763	Field Blank 03080022	**TOTAL ASBESTOS**	**0**	**NA**	**NA**	**0**	NA	0	10	385	0.1449	KM	8/27/03
			ASBESTOS >= 5 μm	0	NA	NA	0							
Blank			NON-ASBESTOS	0	NA	NA	0							
030912-10	J067766	Media Blank 03080023	**TOTAL ASBESTOS**	**0**	**NA**	**NA**	**0**	NA	0	10	385	0.1449	KM	8/27/03
			ASBESTOS >= 5 μm	0	NA	NA	0							
Blank			NON-ASBESTOS	0	NA	NA	0							

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International Specialists in the Environment
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Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: September 15, 2003

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA MW

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 20 air cassette samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Asbestos analyses following modified EPA Method 68-02-3266 Yamate Level 2 [AHERA-Like] were performed by Lab/Cor, Inc., Seattle, Washington.

The samples were numbered:

03080024	03080025	03080026	03080027	03080028
03080029	03080030	03080031	03080032	03080033
03080034	03080035	03080036	03080037	03080038
03080039	03080040	03080041	03080046	03080047

Data Qualifications:

The samples were collected between August 20 and 29, 2003, and were analyzed on September 3 or 4, 2003. There were no detections in the matrix or field blank samples.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical method.

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Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 030938

Report Date: September 11, 2003

Client Information	
Project Name:	MBK Klamath Falls OR
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Aug 30, 2003	*By:* DJ
Prep:	Sep 2, 2003	*By:* DW
Verified:	Sep 2, 2003	*By:* DW
Reviewed:	Sep 4, 2003	*By:* KM
Final Review:	Sep 11, 2003	*By:* JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 μm
Min. Width:	NA

MW 9-15-03

FINAL TABLE

Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
030938-01	03080024	Air Sample	**TOTAL ASBESTOS**	**13.8**	**0.003**	**0.000 - 0.011**	**2**	0.001	1807.4	10	385	0.1449	KM	9/3/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.008	1							
030938-02	03080025	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.006**	**0**	0.001	1778.9	10	385	0.1449	DW	9/3/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.006	0							
			NON-ASBESTOS	0	<0.001	0 - 0.006	0							
030938-03	03080026	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.002**	**0 - 0.006**	**0**	0.002	1659.3	10	385	0.1449	KM	9/3/03
Test			ASBESTOS >= 5 μm	0	<0.002	0 - 0.006	0							
			NON-ASBESTOS	0	<0.002	0 - 0.006	0							
030938-04	03080027	Air Sample	**TOTAL ASBESTOS**	**6.9**	**0.002**	**0.000 - 0.009**	**1**	0.002	1644.2	10	385	0.1449	KM	9/3/03
Test			ASBESTOS >= 5 μm	0	<0.002	0 - 0.006	0							
			NON-ASBESTOS	0	<0.002	0 - 0.006	0							
030938-05	03080028	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.002**	**0 - 0.006**	**0**	0.002	1737.1	10	385	0.1449	KM	9/3/03
Test			ASBESTOS >= 5 μm	0	<0.002	0 - 0.006	0							
			NON-ASBESTOS	0	<0.002	0 - 0.006	0							
030938-06	03080029	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.002**	**0 - 0.006**	**0**	0.002	1712.3	10	385	0.1449	DW	9/3/03
Test			ASBESTOS >= 5 μm	0	<0.002	0 - 0.006	0							
			NON-ASBESTOS	0	<0.002	0 - 0.006	0							
030938-07	03080030	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.002**	**0 - 0.006**	**0**	0.002	1724.8	10	385	0.1449	DW	9/4/03
Test			ASBESTOS >= 5 μm	0	<0.002	0 - 0.006	0							
			NON-ASBESTOS	0	<0.002	0 - 0.006	0							
030938-08	03080031	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.002**	**0 - 0.006**	**0**	0.002	1676.4	10	385	0.1449	DW	9/3/03
Test			ASBESTOS >= 5 μm	0	<0.002	0 - 0.006	0							
			NON-ASBESTOS	0	<0.002	0 - 0.006	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 030938

Report Date: September 11, 2003

Client Information	
Project Name:	MBK Klamath Falls OR
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Aug 30, 2003	*By:* DJ
Prep:	Sep 2, 2003	*By:* DW
Verified:	Sep 2, 2003	*By:* DW
Reviewed:	Sep 4, 2003	*By:* KM
Final Review:	Sep 11, 2003	*By:* JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 μm
Min. Width:	NA

MW 4/503

FINAL TABLE

Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
030938-09	03080032	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.002**	**0 - 0.006**	**0**	0.002	1678.2	10	385	0.1449	DW	9/3/03
Test			ASBESTOS >= 5 μm	0	<0.002	0 - 0.006	0							
			NON-ASBESTOS	0	<0.002	0 - 0.006	0							
030938-10	03080033	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.002**	**0 - 0.006**	**0**	0.002	1724.8	10	385	0.1449	DW	9/3/03
Test			ASBESTOS >= 5 μm	0	<0.002	0 - 0.006	0							
			NON-ASBESTOS	0	<0.002	0 - 0.006	0							
030938-11	03080034	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.002**	**0 - 0.006**	**0**	0.002	1743.4	10	385	0.1449	JH	9/3/03
Test			ASBESTOS >= 5 μm	0	<0.002	0 - 0.006	0							
			NON-ASBESTOS	27.6	0.006	0.002 - 0.016	4							
030938-12	03080035	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.006**	**0**	0.001	1771.4	10	385	0.1449	JH	9/4/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.006	0							
			NON-ASBESTOS	0	<0.001	0 - 0.006	0							
030938-13	03080036	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.003**	**0**	0.001	3234.3	10	385	0.1449	JH	9/4/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	13.8	0.002	0.000 - 0.006	2							
030938-14	03080037	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.002**	**0**	0.001	3991.2	10	385	0.1449	JH	9/4/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.002	0							
			NON-ASBESTOS	13.8	0.001	0.000 - 0.005	2							
030938-15	03080038	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.003**	**0**	0.001	3167.7	10	385	0.1449	KM	9/4/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	0	<0.001	0 - 0.003	0							
030938-16	03080039	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.003**	**0**	0.001	3112.4	10	385	0.1449	DW	9/4/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	0	<0.001	0 - 0.003	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 030938

Report Date: September 11, 2003

Client Information	
Project Name:	MBK Klamath Falls OR
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Aug 30, 2003	*By:* DJ
Prep:	Sep 2, 2003	*By:* DW
Verified:	Sep 2, 2003	*By:* DW
Reviewed:	Sep 4, 2003	*By:* KM
Final Review:	Sep 11, 2003	*By:* JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 µm
Min. Width:	NA

MW 9-15-03

FINAL TABLE

Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
030938-17	03080040	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.003**	**0**	0.001	3148.7	10	385	0.1449	DW	9/4/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.005	1							
030938-18	03080041	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.003**	**0**	0.001	3093.7	10	385	0.1449	DW	9/4/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	0	<0.001	0 - 0.003	0							
030938-19	03080046	Matrix Blank	**TOTAL ASBESTOS**	**0**	**NA**	**NA**	**0**	NA		10	385	0.1449	KM	9/4/03
Blank			ASBESTOS >= 5 µm	0	NA	NA	0							
			NON-ASBESTOS	0	NA	NA	0							
030938-20	03080047	Field Blank	**TOTAL ASBESTOS**	**0**	**NA**	**NA**	**0**	NA		10	385	0.1449	KM	9/4/03
Blank			ASBESTOS >= 5 µm	0	NA	NA	0							
			NON-ASBESTOS	0	NA	NA	0							

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MEMORANDUM

DATE: October 1, 2003

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA MW

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 20 air cassette samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Transmission Electron Microscopy (TEM) asbestos analyses following ISO Method 10312 were performed by Lab/Cor, Inc., Seattle, Washington.

The samples were numbered:

03090001	03090002	03090003	03090004	03090005	03090006
03090007	03090008	03090009	03090010	03090011	03090012
03090013	03090014	03090015	03090016	03090017	03090018
~~03090044~~ 11/13/03	03090023	03090024			

Data Qualifications:

The samples were collected before September 7, 2003, and were analyzed between September 9 and 10, 2003. There were no detections in the field or lot blanks. No QC outliers were listed in the laboratory narrative.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical method.

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Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 030963 *Report Date:* September 30, 2003

Client Information	
Project Name:	MBK Klamath Falls OR
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Sep 8, 2003	*By:* DJ
Prep:	Sep 8, 2003	*By:* DW
	Sep 8, 2003	KM
Verified:	Sep 8, 2003	*By:* DW
Reviewed:	Sep 10, 2003	*By:* DW
Final Review:	Sep 30, 2003	*By:* JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 µm
Min. Width:	NA

FINAL TABLE

Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
030963-01	03090001	JO68213	TOTAL ASBESTOS	0	<0.001	0 - 0.003	0	0.001	3493.0	10	385	0.1449	JH	9/9/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	34.5	0.004	0.001 - 0.009	5							
030963-02	03090002	JO68214	TOTAL ASBESTOS	0	<0.001	0 - 0.003	0	0.001	3217.0	10	385	0.1449	JH	9/9/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	27.6	0.003	0.001 - 0.008	4							
030963-03	03090003	JO68275	TOTAL ASBESTOS	0	<0.001	0 - 0.003	0	0.001	3447.0	10	385	0.1449	JH	9/9/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	27.6	0.003	0.001 - 0.008	4							
030963-04	03090004	JO67503	TOTAL ASBESTOS	0	<0.001	0 - 0.003	0	0.001	3356.0	10	385	0.1449	JH	9/9/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	0	<0.001	0 - 0.003	0							
030963-05	03090005	JO6780	TOTAL ASBESTOS	0	<0.001	0 - 0.003	0	0.001	3328.0	10	385	0.1449	JH	9/9/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	0	<0.001	0 - 0.003	0							
030963-06	03090006	JO68023	TOTAL ASBESTOS	20.7	0.002	0.000 - 0.007	3	0.001	3355.0	10	385	0.1449	JH	9/9/03
Test			ASBESTOS >= 5 µm	13.8	0.002	0.000 - 0.006	2							
			NON-ASBESTOS	13.8	0.002	0.000 - 0.006	2							
030963-07	03090007	JO68252	TOTAL ASBESTOS	0	<0.001	0 - 0.003	0	0.001	2816.0	10	385	0.1449	JH	9/9/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	0	<0.001	0 - 0.003	0							
030963-08	03090008	JO68226	TOTAL ASBESTOS	0	<0.001	0 - 0.004	0	0.001	2797.0	10	385	0.1449	JH	9/9/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.004	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.005	1							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 030963 *Report Date:* September 30, 2003

Client Information	
Project Name:	MBK Klamath Falls OR
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Sep 8, 2003	*By:* DJ
Prep:	Sep 8, 2003	*By:* DW
	Sep 8, 2003	KM
Verified:	Sep 8, 2003	*By:* DW
Reviewed:	Sep 10, 2003	*By:* DW
Final Review:	Sep 30, 2003	*By:* JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 μm
Min. Width:	NA

FINAL TABLE

Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
030963-09	03090009	JO68238	TOTAL ASBESTOS	0	<0.001	0 - 0.004	0	0.001	2797.0	10	385	0.1449	JH	9/9/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.004	0							
			NON-ASBESTOS	0	<0.001	0 - 0.004	0							
030963-10	03090010	JO68227	TOTAL ASBESTOS	6.9	0.001	0.000 - 0.005	1	0.001	2766.0	10	385	0.1449	JH	9/9/03
Test			ASBESTOS >= 5 μm	6.9	0.001	0.000 - 0.005	1							
			NON-ASBESTOS	13.8	0.002	0.000 - 0.007	2							
030963-11	03090011	JO68234	TOTAL ASBESTOS	6.9	0.001	0.000 - 0.005	1	0.001	2759.0	10	385	0.1449	KM	9/10/03
Test			ASBESTOS >= 5 μm	6.9	0.001	0.000 - 0.005	1							
			NON-ASBESTOS	0	<0.001	0 - 0.004	0							
030963-12	03090012	JO68248	TOTAL ASBESTOS	0	<0.001	0 - 0.004	0	0.001	2759.0	10	385	0.1449	KM	9/9/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.004	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.005	1							
030963-13	03090013	JO68290	TOTAL ASBESTOS	0	<0.001	0 - 0.003	0	0.001	3039.0	10	385	0.1449	KM	9/9/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	13.8	0.002	0.000 - 0.006	2							
030963-14	03090014	JO68251	TOTAL ASBESTOS	0	<0.001	0 - 0.003	0	0.001	3021.0	10	385	0.1449	KM	9/9/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.005	1							
030963-15	03090015	JO68219	TOTAL ASBESTOS	0	<0.001	0 - 0.003	0	0.001	3039.0	10	385	0.1449	KM	9/9/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	20.7	0.003	0.001 - 0.008	3							
030963-16	03090016	JO68192	TOTAL ASBESTOS	0	<0.001	0 - 0.003	0	0.001	3030.0	10	385	0.1449	KM	9/9/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	48.3	0.006	0.002 - 0.013	7							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 030963

Report Date: September 30, 2003

Client Information	
Project Name:	MBK Klamath Falls OR
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Sep 8, 2003	*By:* DJ
Prep:	Sep 8, 2003	*By:* DW
	Sep 8, 2003	KM
Verified:	Sep 8, 2003	*By:* DW
Reviewed:	Sep 10, 2003	*By:* DW
Final Review:	Sep 30, 2003	*By:* JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 µm
Min. Width:	NA

FINAL TABLE

Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
030963-17	03090017	JO68222	TOTAL ASBESTOS	0	<0.001	0 - 0.003	0	0.001	3039.0	10	385	0.1449	KM	9/9/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	0	<0.001	0 - 0.003	0							
030963-18	03090018	JO68215	TOTAL ASBESTOS	0	<0.001	0 - 0.003	0	0.001	3039.0	10	385	0.1449	KM	9/9/03
Test			ASBESTOS >= 5 µm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.005	1							
030963-19	03090023	JO68267 Field Blank	TOTAL ASBESTOS	0	NA	NA	0	NA	0.0	10	385	0.1449	KM	9/9/03
Blank			ASBESTOS >= 5 µm	0	NA	NA	0							
			NON-ASBESTOS	0	NA	NA	0							
030963-20	03090024	JO68296 Lot Blank	TOTAL ASBESTOS	0	NA	NA	0	NA	0.0	10	385	0.1449	KM	9/9/03
Blank			ASBESTOS >= 5 µm	0	NA	NA	0							
			NON-ASBESTOS	0	NA	NA	0							

MW 10-1-03

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International Specialists in the Environment
2101 Fourth Avenue, Suite 1900, Seattle, WA 98121
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: October 1, 2003

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA MW

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 19 air cassette samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Transmission Electron Microscopy (TEM) asbestos analyses following ISO Method 10312 were performed by Lab/Cor, Inc., Seattle, Washington.

The samples were numbered:

03090025	03090026	03090027	03090028	03090029	03090030
03090031	03090032	03090033	03090034	03090035	03090036
03090037	03090038	03090039	03090040	03090041	03090042
03090044					

Data Qualifications:

The samples were collected before September 21, 2003, and were analyzed between September 23 and 24, 2003. No QC outliers were listed in the laboratory narrative.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical method.

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Report Number: 031014

Report Date: September 25, 2003

Client Information	
Project Name:	Not Available
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Sep 22, 2003	*By:* DJ
Prep:	Sep 22, 2003	*By:* DW
	Sep 22, 2003	JH
Verified:	Sep 22, 2003	*By:* DW
Reviewed:	Sep 24, 2003	*By:* KM
Final Review:	Sep 25, 2003	*By:* JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 μm
Min. Width:	NA

FINAL TABLE
FOUR GRID OPENINGS ANALYZED
Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
031014-01	03090025	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	1986.0	10	385	0.1449	JH	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							
031014-02	03090026	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	1986.0	10	385	0.1449	KM	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							
031014-03	03090027	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.006**	**0**	0.001	1780.0	10	385	0.1449	KM	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.006	0							
			NON-ASBESTOS	0	<0.001	0 - 0.006	0							
031014-04	03090028	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	2088.0	10	385	0.1449	KM	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							
031014-05	03090029	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	1986.0	10	385	0.1449	KM	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							
031014-06	03090030	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	1986.0	10	385	0.1449	KM	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	13.8	0.003	0.000 - 0.010	2							
031014-07	03090031	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.003**	**0**	0.001	3329.0	10	385	0.1449	KM	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	0	<0.001	0 - 0.003	0							

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Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 031014

Report Date: September 25, 2003

Client Information	
Project Name:	Not Available
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information			
Login:	Sep 22, 2003	*By:*	DJ
Prep:	Sep 22, 2003	*By:*	DW
	Sep 22, 2003		JH
Verified:	Sep 22, 2003	*By:*	DW
Reviewed:	Sep 24, 2003	*By:*	KM
Final Review:	Sep 25, 2003	*By:*	JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 μm
Min. Width:	NA

FINAL TABLE
FOUR GRID OPENINGS ANALYZED
Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
031014-08	03090032	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.003**	**0**	0.001	3320.0	10	385	0.1449	KM	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.004	1							
031014-09	03090033	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.003**	**0**	0.001	3329.0	10	385	0.1449	KM	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	0	<0.001	0 - 0.003	0							
031014-10	03090034	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.003**	**0**	0.001	3253.0	10	385	0.1449	JH	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	13.8	0.002	0.000 - 0.006	2							
031014-11	03090035	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.004**	**0**	0.001	2538.0	10	385	0.1449	JH	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.004	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.006	1							
031014-12	03090036	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.003**	**0**	0.001	3196.0	10	385	0.1449	JH	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.005	1							
031014-13	03090037	Air Sample	**TOTAL ASBESTOS**	**27.6**	**0.003**	**0.001 - 0.009**	**4**	0.001	3067.0	10	385	0.1449	JH	9/23/03
Test			ASBESTOS >= 5 μm	6.9	0.001	0.000 - 0.005	1							
			NON-ASBESTOS	13.8	0.002	0.000 - 0.006	2							
031014-14	03090038	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	1930.0	10	385	0.1449	JH	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							

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Report Number: 031014

Report Date: September 25, 2003

Client Information	
Project Name:	Not Available
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Sep 22, 2003	*By:* DJ
Prep:	Sep 22, 2003	*By:* DW
	Sep 22, 2003	JH
Verified:	Sep 22, 2003	*By:* DW
Reviewed:	Sep 24, 2003	*By:* KM
Final Review:	Sep 25, 2003	*By:* JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 μm
Min. Width:	NA

FINAL TABLE
FOUR GRID OPENINGS ANALYZED
Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
031014-15	03090039	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	2135.0	10	385	0.1449	JH	9/23/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							
031014-16	03090040	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	2049.0	10	385	0.1449	JH	9/24/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							
031014-17	03090041	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	2093.0	10	385	0.1449	JH	9/24/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	0	<0.001	0 - 0.005	0							
031014-18	03090042	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.004**	**0**	0.001	2182.0	10	385	0.1449	KM	9/24/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.004	0							
			NON-ASBESTOS	0	<0.001	0 - 0.004	0							
031014-19	03090044	Air Samples	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.005**	**0**	0.001	1877.0	10	385	0.1449	KM	9/24/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.005	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.008	1							

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MEMORANDUM

DATE: October 1, 2003

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA MW

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 14 air cassette samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Transmission Electron Microscopy (TEM) asbestos analyses following ISO Method 10312 were performed by Lab/Cor, Inc., Seattle, Washington.

The samples were numbered:

03090050	03090051	03090052	03090053	03090054	03090055
03090056	03090057	03090058	03090059	03090060	03090061
03090062	03090063				

Data Qualifications:

The samples were collected before September 24, 2003, and were analyzed between September 26 and 29, 2003. There were no detections in the field blank samples. No QC outliers were listed in the laboratory narrative.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical method.

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Report Number: 031029

Report Date: September 30, 2003

Client Information	
Project Name:	Not Available
Project No.:	Acct#001281029301RS
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Sep 25, 2003	*By:* DJ
Prep:	Sep 25, 2003	*By:* KM
	Sep 26, 2003	DW
Verified:	Sep 25, 2003	*By:* KM
Reviewed:	Sep 29, 2003	*By:* JH
Final Review:	Sep 30, 2003	*By:* JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 μm
Min. Width:	NA

FINAL TABLE

Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
031029-01	03090050	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.002**	**0**	0.001	4613.7	10	385	0.1449	JH	9/26/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.002	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.003	1							
031029-02	03090051	Air Sample	**TOTAL ASBESTOS**	**6.9**	**0.001**	**0.000 - 0.003**	**1**	0.001	4547.1	10	385	0.1449	JH	9/26/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.002	0							
			NON-ASBESTOS	20.7	0.002	0.000 - 0.005	3							
031029-03	03090052	Air Sample	**TOTAL ASBESTOS**	**6.9**	**0.001**	**0.000 - 0.004**	**1**	0.001	3601.6	10	385	0.1449	JH	9/27/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	41.4	0.004	0.002 - 0.010	6							
031029-04	03090053	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.002**	**0**	0.001	4453.0	10	385	0.1449	JH	9/27/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.002	0							
			NON-ASBESTOS	41.4	0.004	0.001 - 0.008	6							
031029-05	03090054	Air Sample	**TOTAL ASBESTOS**	**6.9**	**0.001**	**0.000 - 0.003**	**1**	0.001	4471.0	10	385	0.1449	KM	9/26/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.002	0							
			NON-ASBESTOS	27.6	0.002	0.001 - 0.006	4							
031029-06	03090055	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.002**	**0**	0.001	4406.2	10	385	0.1449	KM	9/26/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.002	0							
			NON-ASBESTOS	34.5	0.003	0.001 - 0.007	5							
031029-07	03090056	Air Sample	**TOTAL ASBESTOS**	**13.8**	**0.002**	**0.000 - 0.006**	**2**	0.001	3217.3	10	385	0.1449	KM	9/26/03
Test			ASBESTOS >= 5 μm	6.9	0.001	0.000 - 0.005	1							
			NON-ASBESTOS	34.5	0.004	0.001 - 0.010	5							
031029-08	03090057	Air Sample	**TOTAL ASBESTOS**	**6.9**	**0.001**	**0.000 - 0.005**	**1**	0.001	3046.0	10	385	0.1449	KM	9/26/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	34.5	0.004	0.001 - 0.010	5							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 031029

Report Date: September 30, 2003

Client Information	
Project Name:	Not Available
Project No.:	Acct#001281029301RS
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Sep 25, 2003	*By:* DJ
Prep:	Sep 25, 2003	*By:* KM
	Sep 26, 2003	DW
Verified:	Sep 25, 2003	*By:* KM
Reviewed:	Sep 29, 2003	*By:* JH
Final Review:	Sep 30, 2003	*By:* JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 μm
Min. Width:	NA

FINAL TABLE

Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
031029-09	03090058	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.003**	**0**	0.001	3496.2	10	385	0.1449	KM	9/29/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	41.4	0.005	0.002 - 0.010	6							
031029-10	03090059	Air Sample	**TOTAL ASBESTOS**	**6.9**	**0.001**	**0.000 - 0.004**	**1**	0.001	3317.7	10	385	0.1449	KM	9/29/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.004	1							
031029-11	03090060	Air Sample	**TOTAL ASBESTOS**	**6.9**	**0.001**	**0.000 - 0.004**	**1**	0.001	3477.5	10	385	0.1449	KM	9/29/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	27.6	0.003	0.001 - 0.008	4							
031029-12	03090061	Air Sample	**TOTAL ASBESTOS**	**0**	**<0.001**	**0 - 0.003**	**0**	0.001	3636.0	10	385	0.1449	JH	9/29/03
Test			ASBESTOS >= 5 μm	0	<0.001	0 - 0.003	0							
			NON-ASBESTOS	0	<0.001	0 - 0.003	0							
031029-13	03090062	Field Blank	**TOTAL ASBESTOS**	**0**	**NA**	**NA**	**0**	NA	0.0	10	385	0.1449	JH	9/29/03
Blank			ASBESTOS >= 5 μm	0	NA	NA	0							
			NON-ASBESTOS	0	NA	NA	0							
031029-14	03090063	Field Blank	**TOTAL ASBESTOS**	**0**	**NA**	**NA**	**0**	NA	0.0	10	385	0.1449	JH	9/29/03
Blank			ASBESTOS >= 5 μm	0	NA	NA	0							
			NON-ASBESTOS	0	NA	NA	0							

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MEMORANDUM

DATE: June 16, 2004

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 13 air cassette samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Transmission Electron Microscopy (TEM) asbestos analyses following the modified EPA-II (AHERA-like) method were performed by Lab/Cor, Inc., Seattle, Washington.

The samples were numbered:

04040201	04040202	04040203	04040204	04040205
04040206	04040207	04040208	04040209	04040210
04040211	04040212	04040213		

Data Qualifications:

The samples were received at the laboratory on April 30, 2004, and were analyzed by May 19, 2004. No discrepancies were noted in the laboratory narrative.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical methods.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

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Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040453 *Report Date:* May 28, 2004

Client Information	
Project Name:	Not Available
Project No.:	001281.0293.01RS
P. O. No.:	137678-S10
Sample Type:	Air

Tracking Information			
Login:	Apr 30, 2004	*By:*	RS
Prep:	May 7, 2004	*By:*	KM
Verified:	May 7, 2004	*By:*	KM
Reviewed:	May 19, 2004	*By:*	KM
Final Review:	May 28, 2004	*By:*	JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 µm
Min. Width:	NA

FINAL TABLE

Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
040453-01	04040201	Warehouse	**TOTAL ASBESTOS**	**0**	**<0.001 U**	**0 - 0.003**	**0**	0.001	3583.4	10	385	0.1449	KM	5/18/04
Test			ASBESTOS >= 5 µm	0	<0.001 U	0 - 0.003	0							
			NON-ASBESTOS	27.6	0.003	0.001 - 0.008	4							
040453-02	04040202	Comachione	**TOTAL ASBESTOS**	**13.8**	**0.001**	**0.000 - 0.005**	**2**	0.001	3753.4	10	385	0.1449	KM	5/18/04
Test			ASBESTOS >= 5 µm	0	<0.001 U	0 - 0.003	0							
			NON-ASBESTOS	20.7	0.002	0.000 - 0.006	3							
040453-03	04040203	Bailey	**TOTAL ASBESTOS**	**0**	**<0.001 U**	**0 - 0.003**	**0**	0.001	3663.1	10	385	0.1449	KM	5/18/04
Test			ASBESTOS >= 5 µm	0	<0.001 U	0 - 0.003	0							
			NON-ASBESTOS	13.8	0.001	0.000 - 0.005	2							
040453-04	04040204	Metz	**TOTAL ASBESTOS**	**6.9**	**0.001**	**0.000 - 0.004**	**1**	0.001	3673.3	10	385	0.1449	KM	5/18/04
Test			ASBESTOS >= 5 µm	0	<0.001 U	0 - 0.003	0							
			NON-ASBESTOS	20.7	0.002	0.000 - 0.006	3							
040453-05	04040205	Devish	**TOTAL ASBESTOS**	**34.5**	**0.004**	**0.001 - 0.008**	**5**	0.001	3693.6	10	385	0.1449	KM	5/18/04
Test			ASBESTOS >= 5 µm	6.9	0.001	0.000 - 0.004	1							
			NON-ASBESTOS	13.8	0.001	0.000 - 0.005	2							
040453-06	04040206	Mika/Graham	**TOTAL ASBESTOS**	**0**	**<0.001 U**	**0 - 0.002**	**0**	0.001	3931.8	10	385	0.1449	KM	5/18/04
Test			ASBESTOS >= 5 µm	0	<0.001 U	0 - 0.002	0							
			NON-ASBESTOS	13.8	0.001	0.000 - 0.005	2							
040453-07	04040207	Warehouse	**TOTAL ASBESTOS**	**6.9**	**0.001**	**0.000 - 0.003**	**1**	0.001	4804.4	10	385	0.1449	KM	5/18/04
Test			ASBESTOS >= 5 µm	0	<0.001 U	0 - 0.002	0							
			NON-ASBESTOS	0	<0.001 U	0 - 0.002	0							
040453-08	04040208	Comachione	**TOTAL ASBESTOS**	**0**	**<0.001 U**	**0 - 0.002**	**0**	0.001	4774.3	10	385	0.1449	KM	5/18/04
Test			ASBESTOS >= 5 µm	0	<0.001 U	0 - 0.002	0							
			NON-ASBESTOS	6.9	0.001	0.000 - 0.003	1							

MW 6-16-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040453 *Report Date:* May 28, 2004

Client Information	
Project Name:	Not Available
Project No.:	001281.0293.01RS
P. O. No.:	137678-S10
Sample Type:	Air

Tracking Information			
Login:	Apr 30, 2004	*By:*	RS
Prep:	May 7, 2004	*By:*	KM
Verified:	May 7, 2004	*By:*	KM
Reviewed:	May 19, 2004	*By:*	KM
Final Review:	May 28, 2004	*By:*	JH

Analysis Information	
Analysis Type:	Modified EPA-II
Reference No.:	68 - 02 - 3266
Min. Aspect Ratio:	5:1
Min. Length:	0.5 μm
Min. Width:	NA

FINAL TABLE

Transmission Electron Microscopy – Modified EPA-II (AHERA like)– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (s/mm²)	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Struc. Count	Analytical Sens. (struc/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
040453-09	04040209	Bailey	**TOTAL ASBESTOS**	**0**	**<0.001U**	**0 - 0.002**	**0**	0.001	4718.2	10	385	0.1449	KM	5/18/04
Test			ASBESTOS >= 5 μm	0	<0.001U	0 - 0.002	0							
			NON-ASBESTOS	0	<0.001U	0 - 0.002	0							
040453-10	04040210	Metz	**TOTAL ASBESTOS**	**0**	**<0.001U**	**0 - 0.002**	**0**	0.001	4750.3	10	385	0.1449	KM	5/19/04
Test			ASBESTOS >= 5 μm	0	<0.001U	0 - 0.002	0							
			NON-ASBESTOS	13.8	0.001	0.000 - 0.004	2							
040453-11	04040211	Devish	**TOTAL ASBESTOS**	**6.9**	**0.001**	**0.000 - 0.003**	**1**	0.001	4658.4	10	385	0.1449	KM	5/19/04
Test			ASBESTOS >= 5 μm	0	<0.001U	0 - 0.002	0							
			NON-ASBESTOS	0	<0.001U	0 - 0.002	0							
040453-12	04040212	Micka/Graham	**TOTAL ASBESTOS**	**0**	**<0.001U**	**0 - 0.002**	**0**	0.001	4700.0	10	385	0.1449	KM	5/19/04
Test			ASBESTOS >= 5 μm	0	<0.001U	0 - 0.002	0							
			NON-ASBESTOS	13.8	0.001	0.000 - 0.004	2							
040453-13	04040213	Matrix	**TOTAL ASBESTOS**	**0**	NA	NA	**0**	NA	NA	10	385	0.1449	KM	5/19/04
Test			ASBESTOS >= 5 μm	0	NA	NA	0							
			NON-ASBESTOS	13.8	NA	NA	2							

NA = Not Applicable - For samples with zero volumes, a structure per unit volume value cannot be calculated.

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

May 28, 2004

Ecology and Environment, Inc.
2101 Fourth Avenue
Suite 1900
Seattle, WA 98121

Attn: Mark Woodke

Project Name: Not Available
Project Number: 001281.0293.01RS
P. O. Number: 137678-S10

Lab/Cor Batch Number: 040453

Conditions Enclosed please find results for samples submitted to our laboratory on April 30, 2004. A list of samples received follows, with limitation or rejection criteria noted where applicable.

Lab/Cor Sample No.	Client Sample No.	Limitation/Rejection Criteria
040453-01	4040201	No special conditions were noted
040453-02	4040202	No special conditions were noted
040453-03	4040203	No special conditions were noted
040453-04	4040204	No special conditions were noted
040453-05	4040205	No special conditions were noted
040453-06	4040206	No special conditions were noted
040453-07	4040207	No special conditions were noted
040453-08	4040208	No special conditions were noted
040453-09	4040209	No special conditions were noted
040453-10	4040210	No special conditions were noted
040453-11	4040211	No special conditions were noted
040453-12	4040212	No special conditions were noted
040453-13	4040213	No special conditions were noted

Method Preparation and analysis of the above samples was conducted in accordance with the modified EPA method 68-02-3266 (Yamate Level 2) for the identification of asbestos. Briefly, the samples were collapsed with acetone, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in acetone until cleared of filter debris.

TEM analysis was performed using a Philips 410 transmission electron microscope equipped with an EDAX PV9800 X-ray analyzer. The air samples were analyzed at a screen magnification of approximately 18,105 X using an accelerating voltage of 100 KV. The sizing of grid openings was performed on the microscope at a magnification of approximately 550X.

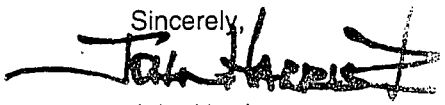
Counting Rules

Minimum Aspect Ratio	Minimum Length	Minimum Width	Minimum Required Analytical Sensitivity	Stopping Rules
5:1	0.5 μm	NA	0.005	50 Structures

Disclaimer This test report relates only to the items tested in this report. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please do not hesitate to call me. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with analytical services.

Sincerely,



John Harris
Laboratory Director

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-01
Project Name: Not Available *Analyst:* KM
Sample No.: 04040201 *Analysis Date:* May 18, 2004
Description: Warehouse

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No.	Grid Coord-inates	Struc-ture No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbes-tos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	A10	NSD**																
	2	C10	NSD																
	3	B14	NSD																
	4	B21	NSD																
	5	A1	1	Fiber	10	0.8							✓			P, S, K			
			2	Fiber	0.8	0.1							✓			Al, Si			
B	6	C11	1	Fiber	1.1	0.1							✓			Si			
			2	Fiber	1	0.1							✓			Si			
	7	A11	NSD																
	8	D21	NSD																
	9	C20	NSD																
	10	B21	NSD																
	10						0	0	0	0	0	0	4						

**NSD – No Structures Detected

Ch – Chrysotile Ac – Actinolite Tr – Tremolite Am – Amosite An – Anthophyllite Cr – Crocidolite

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-02
Project Name: Not Available *Analyst:* KM
Sample No.: 04040202 *Analysis Date:* May 18, 2004
Description: Comachione

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No.	Grid Coordinates	Structure No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbestos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	A21	1	Fiber	1.2	0.2							✓			Al, Si			
			2	Fiber	3.5	0.12			✓					4772	14705	Mg, Si, Ca, Fe	[5 1 0] ZONE AXIS	JH	5/22/04
			3	Fiber	3.5	0.4							✓			Mg, Al, Si, Fe			
	2	D31	NSD**																
	3	A30	1	Matrix - 1	4	1.5			✓							Mg, Si, Ca, Fe			
	4	C22	NSD																
	5	C30	NSD																
B	6	D10	NSD																
	7	B11	NSD																
	8	C12	1	Fiber	1	0.2							✓			Ti			
	9	C20	NSD																
	10	A1	NSD																
	10						0	0	2	0	0	0	3						

**NSD – No Structures Detected

Ch – Chrysotile Ac – Actinolite Tr – Tremolite Am – Amosite An – Anthophyllite Cr – Crocidolite

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-03
Project Name: Not Available *Analyst:* KM
Sample No.: 04040203 *Analysis Date:* May 18, 2004
Description: Bailey

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No.	Grid Coordinates	Structure No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbestos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	C1	NSD**																
	2	B10	NSD																
	3	A11	1	Fiber	0.8	0.03							✓			Al, Si			
	4	D10	NSD																
	5	C20	NSD																
B	6	D1	NSD																
	7	B2	1	Fiber	2	0.22							✓			Mg, Al, Si, Ca, Ti, Fe			
	8	A2	NSD																
	9	A31	NSD																
	10	B10	NSD																
	10						0	0	0	0	0	0	2						

**NSD – No Structures Detected

Ch – Chrysotile Ac – Actinolite Tr – Tremolite Am – Amosite An – Anthophyllite Cr – Crocidolite

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-04
Project Name: Not Available *Analyst:* KM
Sample No.: 04040204 *Analysis Date:* May 18, 2004
Description: Metz

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No:	Grid Coord-inates	Struc-ture No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbes-tos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	A10	NSD**																
	2	D11	NSD																
	3	B21	1	Fiber	0.8	0.1							✓			Al			
	4	B2	NSD																
	5	C11	NSD																
B	6	C11	NSD																
	7	A1	1	Fiber	0.8	0.1							✓			Al			
	8	D10	NSD																
	9	A30	NSD																
	10	B1	1	Fiber	1.5	0.2							✓			Ti			
			2	Fiber	0.8	0.1	✓							4753	14707	Mg, Si		KM	5/19/04
	10						1	0	0	0	0	0	3						

**NSD – No Structures Detected

Ch – Chrysotile Ac – Actinolite Tr – Tremolite Am – Amosite An – Anthophyllite Cr – Crocidolite

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-05
Project Name: Not Available *Analyst:* KM
Sample No.: 04040205 *Analysis Date:* May 18, 2004
Description: Devish

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No.	Grid Coordinates	Structure No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbestos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	C1	1	Matrix - 2	2	1.5	✓							4750			TILTS INTO GRID BAR	KM	5/19/04
	2	A10	NSD**																
	3	D12	1	Fiber	0.8	0.1	✓							4754	14708	Mg, Si		KM	5/19/04
	4	A1	NSD																
	5	B21	NSD																
B	6	A10	NSD																
	7	C1	1	Fiber	1.8	0.15	✓									Mg, Si			
			2	Fiber	0.5	0.1							✓			Al, Si			
	8	A2	NSD																
	9	D21	1	Matrix - 1	1	0.15	✓									Mg, Si			
			2	Matrix - 2	5.2	1.5	✓									Mg, Si			
	10	B11	1	Fiber	3	0.12							✓			Si, S			
	10						5	0	0	0	0	0	2						

**NSD – No Structures Detected

Ch – Chrysotile Ac – Actinolite Tr – Tremolite Am – Amosite An – Anthophyllite Cr – Crocidolite

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-06
Project Name: Not Available *Analyst:* KM
Sample No.: 04040206 *Analysis Date:* May 18, 2004
Description: Mika/Graham

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No.	Grid Coord-inates	Struc-ture No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbes-tos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	A11	1	Fiber	0.7	0.08							✓			Mg, Si			
	2	C10	NSD**																
	3	D20	NSD																
	4	B2	NSD																
	5	B21	NSD																
B	6	D1	NSD																
	7	C20	NSD																
C	8	B11	NSD																
	9	B2	NSD																
	10	C20	1	Fiber	2	0.22							✓			Ti			
	10						0	0	0	0	0	0	2						

**NSD – No Structures Detected

Ch – Chrysotile Ac – Actinolite Tr – Tremolite Am – Amosite An – Anthophyllite Cr – Crocidolite

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-07
Project Name: Not Available *Analyst:* KM
Sample No.: 04040207 *Analysis Date:* May 18, 2004
Description: Warehouse

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No.	Grid Coordinates	Structure No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbestos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	B1	NSD**																
	2	D12	NSD																
	3	A21	NSD																
	4	A2	NSD																
	5	C1	1	Fiber	0.7	0.05	✓							4756	14709	Mg, Si		KM	5/19/04
B	6	B1	NSD																
	7	A11	NSD																
	8	C12	NSD																
	9	C20	NSD																
	10	D11	NSD																
	10						1	0	0	0	0	0	0						

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-08
Project Name: Not Available *Analyst:* KM
Sample No.: 04040208 *Analysis Date:* May 18, 2004
Description: Comachione

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No.	Grid Coordinates	Structure No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbestos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	D10	NSD**																
	2	B11	NSD								✓								
	3	A1	NSD																
	4	A20	NSD																
	5	C11	NSD																
B	6	D11	NSD																
	7	B13	NSD																
	8	A2	NSD																
	9	D40	1	Fiber	1.8	0.2							✓			Al, Si, Ca			
	10	C12	NSD																
	10						0	0	0	0	0	0	1						

**NSD – No Structures Detected

Ch – Chrysotile Ac – Actinolite Tr – Tremolite Am – Amosite An – Anthophyllite Cr – Crocidolite

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-09
Project Name: Not Available *Analyst:* KM
Sample No.: 04040209 *Analysis Date:* May 18, 2004
Description: Bailey

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No.	Grid Coordinates	Structure No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbestos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	B10	NSD**																
	2	D11	NSD																
	3	A1	NSD																
	4	A20	NSD																
	5	C11	NSD																
B	6	D1	NSD																
	7	B12	NSD																
	8	D10	NSD																
	9	C11	NSD																
	10	C3	NSD																
	10						0	0	0	0	0	0	0						

**NSD – No Structures Detected 04045300.TEM

Ch – Chrysotile Ac – Actinolite Tr – Tremolite Am – Amosite An – Anthophyllite Cr – Crocidolite

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-10
Project Name: Not Available *Analyst:* KM
Sample No.: 04040210 *Analysis Date:* May 19, 2004
Description: Metz

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No.	Grid Coord-inates	Struc-ture No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbes-tos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	A11	NSD**																
	2	C11	NSD																
	3	D2	NSD																
	4	D10	1	Fiber	0.6	0.05							✓			Al, Si			
	5	B11	NSD																
B	6	C1	NSD																
	7	A10	NSD																
	8	D11	NSD																
	9	B10	NSD																
	10	B12	1	Fiber	0.6	0.05							✓			Al, Si			
	10						0	0	0	0	0	0	2						

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-11
Project Name: Not Available *Analyst:* KM
Sample No.: 04040211 *Analysis Date:* May 19, 2004
Description: Devish

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No.	Grid Coord-inates	Struc-ture No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbes-tos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	D11	NSD**																
	2	B10	NSD																
	3	A20	NSD																
	4	B2	NSD																
	5	C30	1	Matrix - 1	2.5	1.5	✓							4759	14711	Mg, Si		KM	5/19/04
B	6	A10	NSD																
	7	C10	NSD																
	8	D2	NSD																
	9	D10	NSD																
	10	B31	NSD																
	10						1	0	0	0	0	0	0						

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-12
Project Name: Not Available *Analyst:* KM
Sample No.: 04040212 *Analysis Date:* May 19, 2004
Description: Micka/Graham

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No.	Grid Coordinates	Structure No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbestos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	C1	NSD**																
	2	D11	1	Fiber	0.5	0.03							✓	4752	14706	Mg, Si		KM	5/19/04
	3	A1	NSD																
	4	A20	NSD																
	5	B22	NSD																
B	6	B10	NSD																
	7	D11	NSD																
	8	A11	NSD																
	9	C10	NSD																
	10	C1	1	Fiber	0.6	0.03							✓			Al, Si			
	10						0	0	0	0	0	0	2						

**NSD – No Structures Detected

Ch – Chrysotile Ac – Actinolite Tr – Tremolite Am – Amosite An – Anthophyllite Cr – Crocidolite

Report Number: 040453 *Report Date:* May 28, 2004

Client: Ecology and Environment, Inc. *Lab/Cor Sample No.:* 040453-13
Project Name: Not Available *Analyst:* KM
Sample No.: 04040213 *Analysis Date:* May 19, 2004
Description: Matrix

TEM ASBESTOS FIBER COUNT – RAW DATA

Grid	GO No.	Grid Coordinates	Structure No.	Structure Type	Average Length	Average Width	Asbestos						Non-Asbestos	Neg. No.	EDS No.	Elements	Comments	Confirmation	
							Ch	Am	Ac	An	Tr	Cr						By	Date
A	1	A1	NSD**																
	2	B11	NSD																
	3	B22	NSD																
	4	B33	1	Fiber	0.8	0.05							✓			Al, Si			
	5	B41	NSD																
B	6	A10	NSD																
	7	B1	NSD																
	8	D11	1	Fiber	1	0.08							✓			Al, Si			
	9	B43	NSD																
	10	B23	NSD																
	10						0	0	0	0	0	0	2						

**NSD – No Structures Detected

Ch – Chrysotile Ac – Actinolite Tr – Tremolite Am – Amosite An – Anthophyllite Cr – Crocidolite

GRID MAP

A69	A68	A67	A66	A65	A64	A63	A62	A61	A60	B60	B61	B62	B63	B64	B65	B66	B67	B68	B69
A59	A58	A57	A56	A55	A54	A53	A52	A51	A50	B50	B51	B52	B53	B54	B55	B56	B57	B58	B59
A49	A48	A47	A46	A45	A44	A43	A42	A41	A40	B40	B41	B42	B43	B44	B45	B46	B47	B48	B49
A39	A38	A37	A36	A35	A34	A33	A32	A31	A30	B30	B31	B32	B33	B34	B35	B36	B37	B38	B39
A29	A28	A27	A26	A25	A24	A23	A22	A21	A20	B20	B21	B22	B23	B24	B25	B26	B27	B28	B29
A19	A18	A17	A16	A15	A14	A13	A12	A11	A10	B10	B11	B12	B13	B14	B15	B16	B17	B18	B19
A9	A8	A7	A6	A5	A4	A3	A2	A1		B1	B2	B3	B4	B5	B6	B7	B8	B9	
D9	D8	D7	D6	D5	D4	D3	D2	D1		C1	C2	C3	C4	C5	C6	C7	C8	C9	
D19	D18	D17	D16	D15	D14	D13	D12	D11	D10	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19
D29	D28	D27	D26	D25	D24	D23	D22	D21	D20	C20	C21	C22	C23	C24	C25	C26	C27	C28	C29
D39	D38	D37	D36	D35	D34	D33	D32	D31	D30	C30	C31	C32	C33	C34	C35	C36	C37	C38	C39
D49	D48	D47	D46	D45	D44	D43	D42	D41	D40	C40	C41	C42	C43	C44	C45	C46	C47	C48	C49
D59	D58	D57	D56	D55	D54	D53	D52	D51	D50	C50	C51	C52	C53	C54	C55	C56	C57	C58	C59
D69	D68	D67	D66	D65	D64	D63	D62	D61	D60	C60	C61	C62	C63	C64	C65	C66	C67	C68	C69

To be used as a reference for grid coordinates from each raw data sheet.

ecology and environment, inc.
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MEMORANDUM

DATE: September 16, 2003

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA MW

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 4 air cassette samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Asbestos analyses following ISO Method 10312 were performed by Lab/Cor, Inc., Seattle, Washington.

The samples were numbered:

03080010 03080011 03080012 03080013

Data Qualifications:

The samples were collected between August 20 and 22, 2003, and were analyzed on September 2, 2003. There were no detections in the field samples.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical method.

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Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 030913

Report Date: September 5, 2003

Client Information	
Project Name:	Klamath Falls OR
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Aug 25, 2003	*By:* DJ
Prep:	Aug 29, 2003	*By:* JH
Verified:	Aug 29, 2003	*By:* JH
Reviewed:	Sep 5, 2003	*By:* JH
Final Review:	Sep 5, 2003	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.2 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (liters)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
030913-01	J067746	Air Sample 03080010	PRIMARY STRUCTURES	3.47	<3.47	3.47 - 4.28	0	1.16	3296.0	10	385	0.1007	KM	9/2/03
			ASBESTOS STRUCTURES	3.47	<3.47	3.47 - 4.28	0							
Test			ASBESTOS STRUCTURES > 5 µm	3.47	<3.47	3.47 - 4.28	0							
			ASB. FIBERS & BUNDLES > 5 µm	3.47	<3.47	3.47 - 4.28	0							
			PCM EQUIVALENT STRUCTURES	3.47	<3.47	3.47 - 4.28	0							
			PCM EQUIVALENT FIBERS	3.47	<3.47	3.47 - 4.28	0							
030913-02	J067750	Air Sample 03080011	PRIMARY STRUCTURES	3.47	<3.47	3.47 - 4.28	0	1.16	3306.0	10	385	0.1007	KM	9/2/03
			ASBESTOS STRUCTURES	3.47	<3.47	3.47 - 4.28	0							
Test			ASBESTOS STRUCTURES > 5 µm	3.47	<3.47	3.47 - 4.28	0							
			ASB FIBERS & BUNDLES > 5 µm	3.47	<3.47	3.47 - 4.28	0							
			PCM EQUIVALENT STRUCTURES	3.47	<3.47	3.47 - 4.28	0							
			PCM EQUIVALENT FIBERS	3.47	<3.47	3.47 - 4.28	0							
030913-03	J067742	Air Sample 03080012	PRIMARY STRUCTURES	3.65	<3.65	3.65 - 4.50	0	1.22	3132.0	10	385	0.1007	KM	9/2/03
			ASBESTOS STRUCTURES	3.65	<3.65	3.65 - 4.50	0							
Test			ASBESTOS STRUCTURES > 5 µm	3.65	<3.65	3.65 - 4.50	0							
			ASB FIBERS & BUNDLES > 5 µm	3.65	<3.65	3.65 - 4.50	0							
			PCM EQUIVALENT STRUCTURES	3.65	<3.65	3.65 - 4.50	0							
			PCM EQUIVALENT FIBERS	3.65	<3.65	3.65 - 4.50	0							
030913-04	J067765	Air Sample 03080013	PRIMARY STRUCTURES	3.35	<3.35	3.35 - 4.13	0	1.21	3165.0	10	385	0.1007	KM	9/2/03
			ASBESTOS STRUCTURES	3.35	<3.35	3.35 - 4.13	0							
Test			ASBESTOS STRUCTURES > 5 µm	3.35	<3.35	3.35 - 4.13	0							
			ASB FIBERS & BUNDLES > 5 µm	3.35	<3.35	3.35 - 4.13	0							
			PCM EQUIVALENT STRUCTURES	3.35	<3.35	3.35 - 4.13	0							
			PCM EQUIVALENT FIBERS	3.35	<3.35	3.35 - 4.13	0							

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MEMORANDUM

DATE: September 17, 2003

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA MW

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 3 air cassette samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Transmission Electron Microscopy (TEM) asbestos analyses following ISO Method 10312 were performed by Lab/Cor, Inc., Seattle, Washington.

The samples were numbered: 03080042 03080043 03080044

Data Qualifications:

The samples were collected between August 20 and 30, 2003, and were analyzed on September 11, 2003. There were no detections in the field samples. No QC outliers were listed in the laboratory narrative.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical method.

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Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 030939 *Report Date:* September 13, 2003

Client Information	
Project Name:	MBK Klamath Falls OR
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Aug 30, 2003	*By:* DJ
Prep:	Sep 2, 2003	*By:* DW
Verified:	Sep 2, 2003	*By:* DW
Reviewed:	Sep 12, 2003	*By:* JH
Final Review:	Sep 13, 2003	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.2 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (liters)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
030939-01	03080042	Air Sample	PRIMARY STRUCTURES	5.71	<5.71	5.71 - 7.03	0	1.91	2008.2	10	385	0.1007	KM	9/11/03
			ASBESTOS STRUCTURES	5.71	<5.71	5.71 - 7.03	0							
Test			ASBESTOS STRUCTURES > 5 µm	5.71	<5.71	5.71 - 7.03	0							
			ASB. FIBERS & BUNDLES > 5 µm	5.71	<5.71	5.71 - 7.03	0							
			PCM EQUIVALENT STRUCTURES	5.71	<5.71	5.71 - 7.03	0							
			PCM EQUIVALENT FIBERS	5.71	<5.71	5.71 - 7.03	0							
030939-02	03080043	Air Sample	PRIMARY STRUCTURES	4.10	<4.10	4.10 - 5.06	0	1.37	2787.6	10	385	0.1007	KM	9/11/03
			ASBESTOS STRUCTURES	4.10	<4.10	4.10 - 5.06	0							
Test			ASBESTOS STRUCTURES > 5 µm	4.10	<4.10	4.10 - 5.06	0							
			ASB. FIBERS & BUNDLES > 5 µm	4.10	<4.10	4.10 - 5.06	0							
			PCM EQUIVALENT STRUCTURES	4.10	<4.10	4.10 - 5.06	0							
			PCM EQUIVALENT FIBERS	4.10	<4.10	4.10 - 5.06	0							
030939-03	03080044	Air Sample	PRIMARY STRUCTURES	4.46	<4.46	4.46 - 5.50	0	1.49	2568.2	10	385	0.1007	KM	9/11/03
			ASBESTOS STRUCTURES	4.46	<4.46	4.46 - 5.50	0							
Test			ASBESTOS STRUCTURES > 5 µm	4.46	<4.46	4.46 - 5.50	0							
			ASB. FIBERS & BUNDLES > 5 µm	4.46	<4.46	4.46 - 5.50	0							
			PCM EQUIVALENT STRUCTURES	4.46	<4.46	4.46 - 5.50	0							
			PCM EQUIVALENT FIBERS	4.46	<4.46	4.46 - 5.50	0							
030939-04	03080045	Air Sample	PRIMARY STRUCTURES	N O T A N A L Y Z E D										
			ASBESTOS STRUCTURES											
Test			ASBESTOS STRUCTURES > 5 µm											
			ASB. FIBERS & BUNDLES > 5 µm											
			PCM EQUIVALENT STRUCTURES											
			PCM EQUIVALENT FIBERS											

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MEMORANDUM

DATE: September 30, 2003

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 4 air cassette samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Transmission Electron Microscopy (TEM) asbestos analyses following ISO Method 10312 were performed by Lab/Cor, Inc., Seattle, Washington.

The samples were numbered: 03090019 03090020 03090021 03090022

Data Qualifications:

The samples were collected between September 1 and 8, 2003, and were analyzed by September 19, 2003. There were no detections in the field samples. No QC outliers were listed in the laboratory narrative.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical method.

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Lab/Cor, Inc.

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Report Number: 030964

Report Date: September 22, 2003

Client Information	
Project Name:	MBK Klamath Falls OR
Project No.:	Not Available
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Sep 8, 2003	*By:* DJ
Prep:	Sep 9, 2003	*By:* KM
Verified:	Sep 9, 2003	*By:* KM
Reviewed:	Sep 19, 2003	*By:* JH
Final Review:	Sep 22, 2003	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Aspect Ratio:	3:1(PCM), 5:1(Other)
Min. Length:	5.0 µm (PCM) 0.5 µm (Other)
Min. Width:	0.2 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (liters)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
030964-01	03090019	JO68148	PRIMARY STRUCTURES	4.69	<4.69	4.69 - 5.79	0	1.57	2436.0	10	385	0.1007	KM	9/18/03
			ASBESTOS STRUCTURES	4.69	<4.69	4.69 - 5.79	0							
Test			ASBESTOS STRUCTURES > 5 µm	4.69	<4.69	4.69 - 5.79	0							
			ASB. FIBERS & BUNDLES > 5 µm	4.69	<4.69	4.69 - 5.79	0							
			PCM EQUIVALENT STRUCTURES	4.69	<4.69	4.69 - 5.79	0							
			PCM EQUIVALENT FIBERS	4.69	<4.69	4.69 - 5.79	0							
030964-02	03090020	JO67778	PRIMARY STRUCTURES	3.98	<3.98	3.98 - 4.89	0	1.33	2887.0	10	385	0.1007	KM	9/19/03
			ASBESTOS STRUCTURES	3.98	<3.98	3.98 - 4.89	0							
Test			ASBESTOS STRUCTURES > 5 µm	3.98	<3.98	3.98 - 4.89	0							
			ASB. FIBERS & BUNDLES > 5 µm	3.98	<3.98	3.98 - 4.89	0							
			PCM EQUIVALENT STRUCTURES	3.98	<3.98	3.98 - 4.89	0							
			PCM EQUIVALENT FIBERS	3.98	<3.98	3.98 - 4.89	0							
030964-03	03090021	JO68160	PRIMARY STRUCTURES	3.59	<3.59	3.59 - 4.34	0	1.20	3183.0	10	385	0.1007	KM	9/19/03
			ASBESTOS STRUCTURES	3.59	<3.59	3.59 - 4.34	0							
Test			ASBESTOS STRUCTURES > 5 µm	3.59	<3.59	3.59 - 4.34	0							
			ASB. FIBERS & BUNDLES > 5 µm	3.59	<3.59	3.59 - 4.34	0							
			PCM EQUIVALENT STRUCTURES	3.59	<3.59	3.59 - 4.34	0							
			PCM EQUIVALENT FIBERS	3.59	<3.59	3.59 - 4.34	0							
030964-04	03090022	JO67771	PRIMARY STRUCTURES	3.80	<3.80	3.80 - 4.70	0	1.27	3002.0	10	385	0.1007	JH	9/19/03
			ASBESTOS STRUCTURES	3.80	<3.80	3.80 - 4.70	0							
Test			ASBESTOS STRUCTURES > 5 µm	3.80	<3.80	3.80 - 4.70	0							
			ASB. FIBERS & BUNDLES > 5 µm	3.80	<3.80	3.80 - 4.70	0							
			PCM EQUIVALENT STRUCTURES	3.80	<3.80	3.80 - 4.70	0							
			PCM EQUIVALENT FIBERS	3.80	<3.80	3.80 - 4.70	0							

MW 9-26-03

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MEMORANDUM

DATE: October 2, 2003

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA MW

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 19 soil samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Lead analyses (EPA Methods 7420) were performed by NVL Laboratories, Seattle, Washington.

The samples were numbered:

03070123	03070150	03070169	03070176	03070200
03070187	03070206	03070202	03070212	03070213
03070222	03070220	03070248	03070242	03070255
03070129	03070140	03070231	03070163	

The corresponding laboratory identification numbers are 030815-01 through 030815-19, respectively.

Data Qualifications:

1. Sample Holding Times: Acceptable.

The samples were collected between July 29 and 31, 2003, and were analyzed on August 5, 2003, therefore meeting QC criteria of less than 6 months between collection, extraction, and analysis for soil samples.

2. Initial and Continuing Calibration: Acceptable.

A minimum of one calibration standard and a blank were analyzed at the beginning of the analysis sequence and after every 10 samples. The initial calibration correlation coefficient was 1.000. No reported results were greater than 110% of the highest calibration standard. All AA recoveries were within QC limits of 80% to 120%.

3. Blanks: Acceptable.

A preparation blank was analyzed for each 20 samples or per matrix per concentration level. Blanks were analyzed after each Initial or Continuing Calibration Verification. Lead was not detected in applicable calibration and/or preparation blanks.

4. Precision and Bias Determination: Not Performed.

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

5. Performance Evaluation Sample Analysis: Not Provided.

Performance evaluation samples were not provided to the laboratory.

6. Blank Spike Analysis: Acceptable.

Blank spike(BS)/BS duplicate (BSD) analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. BS and BSD duplicate recoveries were within the QC limits.

7. Duplicate Analysis: Acceptable.

All spike duplicate results were within QC limits.

8. Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Monday, August 18, 2003 Lab/Cor Report Number: *030815R1*

Bill Mehnert
Ecology and Environment, Inc.
333 SW 5th Ave
Suite 608
Portland OR 97204

Phone: 503-248-5600
Fax:

Project Name: North Ridge Estates
Project Number: 001281.0293.OIRS
Client Reference:
Sample Receipt Date: 8/2/2003

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Analysis #	Client Sample #	Analysis Type	Sample Description
Batch #: ***B4000***			
S1-A1	03070123	Lead, Flame AA, subcontracted	MBKS-5
S2-A1	03070150	Lead, Flame AA, subcontracted	OYSTRA-2
S3-A1	03070169	Lead, Flame AA, subcontracted	GIBSON-2
S4-A1	03070176	Lead, Flame AA, subcontracted	WEST-2
S5-A1	03070200	Lead, Flame AA, subcontracted	HUMFELDT-4
S6-A1	03070187	Lead, Flame AA, subcontracted	DEVISH-2
S7-A1	03070206	Lead, Flame AA, subcontracted	PETERSON -1
S8-A1	03070202	Lead, Flame AA, subcontracted	MBKA-1
S9-A1	03070212	Lead, Flame AA, subcontracted	LEE-2
S10-A1	03070213	Lead, Flame AA, subcontracted	LEE-3
S11-A1	03070222	Lead, Flame AA, subcontracted	MBKF-2
S12-A1	03070220	Lead, Flame AA, subcontracted	LINDELL-3
S13-A1	03070248	Lead, Flame AA, subcontracted	SELIM-3
S14-A1	03070242	Lead, Flame AA, subcontracted	WALLE-2
S15-A1	03070255	Lead, Flame AA, subcontracted	MKGB-5
S16-A1	03070129	Lead, Flame AA, subcontracted	ORLANDO-1
S17-A1	03070140	Lead, Flame AA, subcontracted	STEARNS-2
S18-A1	03070231	Lead, Flame AA, subcontracted	SANSINSKI-2
S19-A1	03070163	Lead, Flame AA, subcontracted	Pb 6000/70m - Background

Lead, Flame AA, subcontracted Sample analysis was subcontracted to a certified independent laboratory. The examination was performed using the EPA 7420 method.

Disclaimer This test report relates only to the items tested in this report. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with analytical services.

Sincerely,

John Harris, M.P.H.
Laboratory Director

7619 6th Ave NW, Seattle WA 98117 (206) 781-0155 (Office) (206) 789-8424 (Fax)
mail@labcor.net

NVL Laboratories, Inc.
4708 Aurora Ave. N., Seattle. WA 98103
Tel: 206.547.0100, Fax: 206.634.1936
www.nvllabs.com

Analysis Report

AIHA - IH #101861

AIHA Environmental Lead and Industrial Hygiene ACCREDITED LABORATORY

Total Lead (Pb)

Client: Lab/Cor, Inc.
Address: 7619 6th Avenue N.W.
Seattle, WA 98117
Attention: Mr. John Harris
Project Location: North Ridge Estates

Batch #: 2310228.00
Matrix: Soil
Method: EPA 7000B
Client Project #:030815
Samples Received: 19
Total Samples Analyzed:19

Lab ID	Client Sample #	Sample Wt (g)	RL mg/ kg	Results in mg/Kg	Results in ppm
23064888	030815-01 0123	0.30	33.0	1500.0	1500.0
23064889	030815-02 0150	0.31	33.0	130.0	130.0
23064890	030815-03 0169	0.30	33.0	180.0	180.0
23064891	030815-04 0176	0.31	32.0	310.0	310.0
23064892	030815-05 0200	0.30	33.0	89.0	89.0
23064893	030815-06 0187	0.30	33.0	230.0	230.0
23064894	030815-07 0206	0.30	33.0	< 33.0 U	< 33.0 U
23064895	030815-08 0202	0.31	33.0	270.0	270.0
23064896	030815-09 0212	0.31	33.0	88.0	88.0
23064897	030815-10 0213	0.31	33.0	170.0	170.0
23064898	030815-11 0222	0.30	33.0	250.0	250.0
23064899	030815-12 0226	0.31	33.0	< 33.0 U	< 33.0 U
23064900	030815-13 0248	0.31	33.0	280.0	280.0
23064901	030815-14 0242	0.31	33.0	< 33.0 U	< 33.0 U
23064902	030815-15 0255	0.30	33.0	43.0	43.0
23064903	030815-16 0129	0.30	33.0	320.0	320.0
23064904	030815-17 0146	0.30	33.0	58.0	58.0
23064905	030815-18 0231	0.30	33.0	< 33.0 U	< 33.0 U
23064906	030815-19 0163	0.31	33.0	< 33.0 U	< 33.0 U

Sampled by: Client
Analyzed by: Holly Tuttle Date: 08/05/2003
Reviewed by: Nick Ly Date: 08/05/2003

Nick Ly, Technical Director

mg/ kg = Milligrqms per kilogram
ppm = Parts per million

RL = Reporting Limit
'<' = Below the reporting Limit

Note Method QC results are acceptable unless stated otherwise.

Bench Run No: 23-0804-6

MW 10-2-03

NVL Laboratories, Inc.

4708 Aurora Ave. N., Seattle, WA 98103
Tel: 206.547.0100, Fax: 206.634.1936
www.nvllabs.com

Metals QC Report

AIHA - IH #11559

AIHA Environmental Lead and Industrial Hygiene ACCREDITED LABORATORY

Client: Lab/Cor, Inc.
Address: 7619 6th Avenue N.W.
Seattle, WA 98117
Attention: Mr. John Harris
Project Location: North Ridge Estates

Batch #: 2310228.00
Matrix: Soil
Method: EPA 7000B
Samples Received: 19

Analyte	Sample Type	Units	Amount Spiked	Amount Recovered	% Recovery	Acceptable Limits	RPD
Lead (PB)	ICV	ppm	3.00	3.00	100	90-110	
	CCV	ppm	5.00	5.01	100	90-110	
	CCV	ppm	5.00	5.12	102	90-110	
	Method Blank	ppm	0.00	< 0.50	N/A	N/A	
	LCS Spike	ppm	500.00	7.36	99	80-120	
	LCS Spike	ppm	500.00	6.54	95	80-120	
	LCS Spike	ppm	500.00	7.36	99	+/- 25	4.4
	LCS Spike	ppm	500.00	6.54	95	+/- 25	4.4

Sampled by: Client
Analyzed by: Holly Tuttle Date: 08/05/2003
Reviewed by: Nick Ly Date: 08/05/2003

Nick Ly, Technical Director

ppb= Parts per billion (ug/L)
ppm= Parts per million (mg/L)
RL= Reporting Limit

ICV= Initial Calibration Verification
CCV= Continuous Calibration Verification
N/A= Not Applicable

ecology and environment, inc.
International Specialists in the Environment
2101 Fourth Avenue, Suite 1900, Seattle, WA 98121
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: June 16, 2004

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 7 soil samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Lead analyses (EPA 7000 Series Method) were performed by NVL Laboratories, Seattle, Washington.

The samples were numbered:

04040103	04040119	04040131	04040132	04040141
04040144	04040150			

Data Qualifications:

1. **Sample Holding Times: Acceptable.**

The samples were analyzed within 6 months of sample collection, therefore meeting QC holding time criteria for soil samples.

2. **Initial and Continuing Calibration: Acceptable.**

The ICV and CCV results were within the QC limits of 90% to 110%.

3. **Blanks: Acceptable.**

Lead was not detected in the method blank.

4. **Precision and Bias Determination: Not Performed.**

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets.

5. Performance Evaluation Sample Analysis: Not Provided.

Performance evaluation samples were not provided to the laboratory.

6. Blank Spike Analysis: Acceptable.

Blank spike(BS)/BS duplicate (BSD) analyses were performed per SDG or per matrix per concentration level, whichever was more frequent. BS and BSD duplicate recoveries were within the QC limits.

7. Duplicate Analysis: Acceptable.

All spike duplicate results were within QC limits.

8.Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), the analytical method, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review". Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Tuesday, May 11, 2004 Lab/Cor Report Number: *040464R1*

Mark Woodke
Ecology and Environment, Inc.
2101 4th Ave
Suite 1900
Seattle WA 98121

Phone: 206-624-9537
Fax: 206-621-9832

Project Name: Soil
Project Number: 001281.0293.QRS
Client Reference:
Sample Receipt Date: 5/3/2004

Enclosed please find results for samples submitted to our laboratory. A list of samples and analyses follows:

Lab/Cor Analysis #	Client Sample #	Analysis Type	Sample Description
Batch #: B4448			
S1-A1	04040103	Lead, Flame AA, subcontracted	A3
S2-A1	04040119	Lead, Flame AA, subcontracted	C5
S3-A1	04040131	Lead, Flame AA, subcontracted	E3
S4-A1	04040132	Lead, Flame AA, subcontracted	E4
S5-A1	04040141	Lead, Flame AA, subcontracted	F6
S6-A1	04040144	Lead, Flame AA, subcontracted	G2
S7-A1	04040150	Lead, Flame AA, subcontracted	D4A

Lead, Flame AA, subcontracted Sample analysis was subcontracted to a certified independent laboratory. The examination was performed using the EPA 7420 method.

Disclaimer This test report relates only to the items tested in this report. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please call us. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with analytical services.

Sincerely,

John Harris, M.P.H.
Laboratory Director

NVL Laboratories, Inc.
4708 Aurora Ave. N., Seattle, WA 98103
Tel: 206.547.0100, Fax: 206.634.1936
www.nvllabs.com

Analysis Report

AIHA - IH
#101861

AIHA Environmental Lead and Industrial Hygiene ACCREDITED LABORATORY

Total Lead (Pb)

Client: Lab/Cor, Inc.
Address: 7619 6th Avenue N.W.
Seattle, WA 98117
Attention: Mr. John Harris
Project Location: n/a

Batch #: 2406112.00
Matrix: Soil
Method: EPA 7000B
Client Project #:040464
Samples Received: 7
Total Samples Analyzed:7

Lab ID	Client Sample #	Sample Wt (g)	RL mg/ kg	Results in mg/Kg	Results in ppm
24033362	040464-S1 / 04040103	0.3030	33.0	< 33.0 U	< 33.0 U
24033363	040464-S2 / 04040119	0.3000	33.0	< 33.0 U	< 33.0 U
24033364	040464-S3 / 04040131	0.3289	30.0	1500.0	1500.0
24033365	040464-S4 / 04040132	0.3199	31.0	610.0	610.0
24033366	040464-S5 / 04040141	0.3167	32.0	< 32.0 U	< 32.0 U
24033367	040464-S6 / 04040144	0.3059	33.0	93.0	93.0
24033368	040464-S7 / 04040150	0.3118	32.0	8200.0	8200.0

MW 6-8-04

Sampled by: Client
Analyzed by: Cheston Perry Date: 05/06/2004
Reviewed by: Nick Ly Date: 05/06/2004

Nick Ly, Technical Director

mg/ kg = Milligrqms per kilogram
ppm = Parts per million

RL = Reporting Limit
'<' = Below the reporting Limit

Note : Method QC results are acceptable unless stated otherwise.

Bench Run No: 24-0505-1

NVL Laboratories, Inc.

4708 Aurora Ave. N., Seattle, WA 98103
Tel: 206.547.0100, Fax: 206.634.1936
www.nvllabs.com

Metals QC Report

AIHA - IH #11559

AIHA Environmental Lead and Industrial Hygiene ACCREDITED LABORATORY

Client: Lab/Cor, Inc.
Address: 7619 6th Avenue N.W.
Seattle, WA 98117
Attention: Mr. John Harris
Project Location: n/a

Batch #: 2406112.00
Matrix: Soil
Method: EPA 7000B
Samples Received: 7

Analyte	Sample Type	Units	Amount Spiked	Amount Recovered	% Recovery	Acceptable Limits	RPD
Lead (PB)	ICV	ppm	3.00	2.98	99	90-110	
	CCV	ppm	5.00	4.97	99	90-110	
	CCV	ppm	5.00	5.08	102	90-110	
	Method Blank	ppm	0.00	< 0.50	N/A	N/A	
	LCS Spike	ppm	500.00	6.97	102	80-120	
	LCS Spike	ppm	500.00	8.30	99	80-120	
	LCS Spike	ppm	500.00	6.97	102	+/- 25	2.7
	LCS Spike	ppm	500.00	8.30	99	+/- 25	2.7

Sampled by: Client
Analyzed by: Cheston Perry Date: 05/06/2004
Reviewed by: Nick Ly Date: 05/06/2004

Nick Ly, Technical Director

ppb= Parts per billion (ug/L)
ppm= Parts per million (mg/L)
RL= Reporting Limit

ICV= Initial Calibration Verification
CCV= Continuous Calibration Verification
N/A= Not Applicable

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MEMORANDUM

DATE: May 3, 2004

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 4 soil and 12 air cassette samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Transmission Electron Microscopy (TEM) asbestos analyses following ISO Method 10312 and/or NIOSH Method 7402 were performed by Lab/Cor, Inc., Seattle, Washington.

The samples were numbered:

04084101	04084103	04080109	04080111	04114001
04114004	04114006	04114009	04114013	04114018
04114021	04114028			
04114011	04114015	04114023	04114030	

Data Qualifications:

The samples were received at the laboratory between March 15 and April 8, 2004, and were analyzed by April 20, 2004. No discrepancies were noted in the laboratory narrative.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical methods.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

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Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

April 21, 2004

Ecology and Environment, Inc.
2101 Fourth Avenue
Suite 1900
Seattle, WA 98121

Attn: Mark Woodke

Project Name: North Ridge Estates-Oregon
Project Number: TDD #03-07-0011B
P. O. Number: Not Available

Lab/Cor Batch Number: 040246

Conditions Enclosed please find results for samples submitted to our laboratory on March 15, 2004. A list of samples received follows, with limitation or rejection criteria noted where applicable.

Lab/Cor Sample No.	Client Sample No.	Limitation/Rejection Criteria
040246-01	4084101	No special conditions were noted.
040246-02	4084103	No special conditions were noted. Bailey
040246-03	4084109	No special conditions were noted.
040246-04	4084111	No special conditions were noted. Gronchi
040246-05	4114001	No special conditions were noted.
040246-06	4114004	No special conditions were noted. Ogata
040246-07	4114006	Analyzed as TEM NIOSH 7402.
040246-08	4114009	No special conditions were noted.
040246-09	4114011	No special conditions were noted. Gaske
040246-10	4114013	No special conditions were noted.d
040246-11	4114015	No special conditions were noted. Graham
040246-12	4114018	Analyzed as TEM NIOSH 7402.
040246-13	4114021	No special conditions were noted.
040246-14	4114023	No special conditions were noted. Hemstadt
040246-15	4114028	No special conditions were noted.
040246-16	4114030	No special conditions were noted. Lee

Method Preparation and analysis of the above samples was conducted in accordance with the ISO method 10312 (Direct) for the identification of asbestos. Briefly, the samples were collapsed with acetone, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in acetone until cleared of filter debris.

TEM analysis was performed using a Philips 410 transmission electron microscope equipped with an EDAX PV9800 X-ray analyzer. The air samples were analyzed at various approximate screen magnifications of 5,000x for PCM equivalent structures, 10,000x for asbestos structures > 5.0 µm lengths, and 20,000x for asbestos structures > 0.5 µm lengths. An accelerating voltage of 100 KV was applied. The sizing of grid openings was performed on the microscope at a magnification of approximately 550X.

Counting Rules	Minimum Aspect Ratio	Minimum Length	Minimum Width	Minimum Required Analytical Sensitivity	Stopping Rules
PCM	3:1	5.0 µm	0.2 - 3.0 µm	NA	100 Structures
Other	5:1	0.5 µm	NA	NA	100 Structures

Disclaimer This test report relates only to the items tested in this report. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please do not hesitate to call me. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with analytical services.

Sincerely,

John Harris
Laboratory Director

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040246 *Report Date:* April 21, 2004

Client Information		Tracking Information			Analysis Information	
Project Name:	North Ridge Estates-Oregon	*Login:*	Mar 15, 2004	*By:* RS	*Analysis Type:*	ISO
Project No.:	TDD #03-07-0011B	*Prep:*	Mar 22, 2004	*By:* KM	*Reference No.:*	10312
P. O. No.:	Not Available 10041-516	*Verified:*	Mar 22, 2004	*By:* KM	*Min. Aspect Ratio:*	3:1(PCM), 5:1(Other)
Sample Type:	Air	*Reviewed:*	Apr. 21, 2004	*By:* JH	*Min. Length:*	5.0 µm (PCM) 0.5 µm (Other)
		Final Review:	Apr 21, 2004	*By:* JH	*Min. Width:*	0.2 - 3.0 µm (PCM) NA (Other)

MW 3-04

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (liters)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040246-01	04084101	Work Area Background	PRIMARY STRUCTURES	<38.37	<38.37	38.37 – 47.34	0	12.834	297.9	10	385	0.1007	KM	3/25/04
			ASBESTOS STRUCTURES	<38.37	<38.37	38.37 – 47.34	0							
Test			ASBESTOS STRUCTURES > 5 µm	<38.37	<38.37	38.37 – 47.34	0							
			ASB. FIBERS & BUNDLES > 5 µm	<38.37	<38.37	38.37 – 47.34	0							
			PCM EQUIVALENT STRUCTURES	<38.37	<38.37	38.37 – 47.34	0							
			PCM EQUIVALENT FIBERS	<38.37	<38.37	38.37 – 47.34	0							
040246-02	04084103	NA	PRIMARY STRUCTURES	0.91	14.56	8.32 – 23.64	16	0.910	300.3	140	385	1.4092	KM	3/25/04
			ASBESTOS STRUCTURES	0.91	18.20	11.11 – 28.10	20							
Test			ASBESTOS STRUCTURES > 5 µm	<5.73	<5.73	5.73 – 6.57	2							
			ASB. FIBERS & BUNDLES > 5 µm	<2.72	<2.72	2.72 – 3.36	0							
			PCM EQUIVALENT STRUCTURES	<2.72	<2.72	2.72 – 3.36	0							
			PCM EQUIVALENT FIBERS	<2.72	<2.72	2.72 – 3.36	0							
040246-03	04084109	Work Area Background	PRIMARY STRUCTURES	<37.21	<37.21	37.21 – 45.91	0	12.445	307.2	10	385	0.1007	KM	4/4/04
			ASBESTOS STRUCTURES	<37.21	<37.21	37.21 – 45.91	0							
Test			ASBESTOS STRUCTURES > 5 µm	<37.21	<37.21	37.21 – 45.91	0							
			ASB. FIBERS & BUNDLES > 5 µm	<37.21	<37.21	37.21 – 45.91	0							
			PCM EQUIVALENT STRUCTURES	<37.21	<37.21	37.21 – 45.91	0							
			PCM EQUIVALENT FIBERS	<37.21	<37.21	37.21 – 45.91	0							
040246-04	04084111	NA	PRIMARY STRUCTURES	0.89	3.57	0.97 – 9.14	4	0.893	306	140	385	1.4092	KM	4/7/04
			ASBESTOS STRUCTURES	0.89	3.57	0.97 – 9.14	4							
Test			ASBESTOS STRUCTURES > 5 µm	<6.92	<6.92	6.92 – 7.83	3							
			ASB. FIBERS & BUNDLES > 5 µm	<6.92	<6.92	6.92 – 7.83	3							
			PCM EQUIVALENT STRUCTURES	<6.92	<6.92	6.92 – 7.83	3							
			PCM EQUIVALENT FIBERS	<6.92	<6.92	6.92 – 7.83	3							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040246 *Report Date:* April 21, 2004

Client Information		Tracking Information			Analysis Information	
Project Name:	North Ridge Estates-Oregon	*Login:*	Mar 15, 2004	*By:* RS	*Analysis Type:*	ISO
Project No.:	TDD #03-07-0011B	*Prep:*	Mar 22, 2004	*By:* KM	*Reference No.:*	10312
P. O. No.:	Not Available	*Verified:*	Mar 22, 2004	*By:* KM	*Min. Aspect Ratio:*	3:1(PCM), 5:1(Other)
Sample Type:	Air	*Reviewed:*	Apr. 21, 2004	*By:* JH	*Min. Length:*	5.0 µm (PCM) 0.5 µm (Other)
		Final Review:	Apr 21, 2004	*By:* JH	*Min. Width:*	0.2 - 3.0 µm (PCM) NA (Other)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 (Direct) – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (liters)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040246-09	04114011	Soil	PRIMARY STRUCTURES	<4.163	<4.163	4.16 – 4.89	1	0.878	311.1	140	385	1.4092	KM	4/9/04
			ASBESTOS STRUCTURES	<4.163	<4.163	4.16 – 4.89	1							
			ASBESTOS STRUCTURES > 5 µm	<2.626	<2.626	2.63 – 3.24	0							
Test			ASB. FIBERS & BUNDLES > 5 µm	<2.626	<2.626	2.63 – 3.24	0							
			PCM EQUIVALENT STRUCTURES	<2.626	<2.626	2.63 – 3.24	0							
			PCM EQUIVALENT FIBERS	<2.626	<2.626	2.63 – 3.24	0							
040246-10	04114013	Work Area Background	PRIMARY STRUCTURES	<38.10	<38.10	38.10 – 47.01	0	12.744	300	10	385	0.1007	KM	4/18/04
			ASBESTOS STRUCTURES	<38.10	<38.10	38.10 – 47.01	0							
			ASBESTOS STRUCTURES > 5 µm	<38.10	<38.10	38.10 – 47.01	0							
Test			ASB. FIBERS & BUNDLES > 5 µm	<38.10	<38.10	38.10 – 47.01	0							
			PCM EQUIVALENT STRUCTURES	<38.10	<38.10	38.10 – 47.01	0							
			PCM EQUIVALENT FIBERS	<38.10	<38.10	38.10 – 47.01	0							
040246-11	04114015	Soil	PRIMARY STRUCTURES	4.77	481.70	387.75 – 575.64	101	4.769	297	27	385	0.2718	KM	4/18/04
			ASBESTOS STRUCTURES	4.77	682.01	570.23 – 793.79	143							
			ASBESTOS STRUCTURES > 5 µm	4.77	52.46	26.19 – 93.87	11							
Test			ASB. FIBERS & BUNDLES > 5 µm	<36.96	<36.96	36.96 – 41.81	3							
			PCM EQUIVALENT STRUCTURES	4.77	19.08	5.20 – 48.85	4							
			PCM EQUIVALENT FIBERS	<36.96	<36.96	36.96 – 41.81	3							
040246-12	04114018	H&S Area Monitor	Analyzed as a NIOSH 7402. NIOSH 7402 data tables follow the ISO 10312 data tables.											
Test														

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040360 *Report Date:* April 21, 2004

Client Information	
Project Name:	North Ridge Estates – Oregon
Project No.:	TDD #03-07-0011B
P. O. No.:	Not Available
Sample Type:	Air

Tracking Information		
Login:	Apr 8, 2004	*By:* KM
Prep:	Apr 8, 2004	*By:* KM
Verified:	Apr 8, 2004	*By:* KM
Reviewed:	Apr 21, 2004	*By:* KM
Final Review:	Apr 21, 2004	*By:* JH

Analysis Information	
Analysis Type:	NIOSH
Reference No.:	7402
Min. Aspect Ratio:	3:1
Min. Length:	5 µm
Min. Width:	0.25 µm

FINAL TABLE

Transmission Electron Microscopy – NIOSH – Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Description	Fiber Type	Concentration (fiber/cc)	95% Confidence Interval (fiber/cc)	Fiber Count	Opt. Vis. Asb. Fibs. (%)	Analytical Sens. (fiber/cc)	Volume (liters)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040360-01	04114006	L/C #040246-07	ASBESTOS	<0.002 U	0 - 0.006	0	0	0.002	627.6	40	385	0.4026	KM	4/8/04
			NON-ASBESTOS	0.017	0.008 - 0.030	11								
Test			**TOTAL**	**0.017**	**0.008 - 0.030**	**11**								
040360-02	04114018	L/C #040246-12	ASBESTOS	<0.002 U	0 - 0.006	0	0	0.002	612.0	40	385	0.4026	KM	4/18/04
			NON-ASBESTOS	0.005	0.001 - 0.014	3								
Test			**TOTAL**	**0.005**	**0.001 - 0.014**	**3**								

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ecology and environment, inc.
International Specialists in the Environment
2101 Fourth Avenue, Suite 1900, Seattle, WA 98121
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: July 21, 2004

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA MW

SUBJ: **Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 10 air filter samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Transmission Electron Microscopy (TEM) asbestos analyses following ISO method 10312 were performed by Lab/Cor, Inc., Seattle, Washington.

The field samples were numbered:

04124103	04124106	04124110	04124112	04124118
04124119	04134051	04134053	04134056	04134058

Data Qualifications:

The samples were received at the laboratory on March 24, 2004, and were analyzed by July 9, 2004. No discrepancies were noted in the laboratory narrative.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical method.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

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intentionally left blank.

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

July 12, 2004

Ecology and Environment, Inc.
2101 Fourth Avenue
Suite 1900
Seattle, WA 98121

Attn: Mark Woodke

Project Name: Klamath Falls
Project Number: TDD#03-07-0011, 001281.0293.01RS
P. O. Number: 100017-S10-Amendment A

Lab/Cor Batch Number: 040296

Conditions Enclosed please find results for samples submitted to our laboratory on March 24, 2004. A list of samples received follows, with limitation or rejection criteria noted where applicable.

Lab/Cor Sample No.	Client Sample No.	Limitation/Rejection Criteria
040296-01	04124103	No special conditions were noted
040296-02	04124106	No special conditions were noted
040296-03	04124110	No special conditions were noted
040296-04	04124112	No special conditions were noted
040296-05	04124118	No special conditions were noted
040296-06	04124119	No special conditions were noted
040296-07	04134051	No special conditions were noted
040296-08	04134053	No special conditions were noted
040296-09	04134056	No special conditions were noted
040296-10	04134058	No special conditions were noted

Method Preparation and analysis of the above samples was conducted in accordance with the ISO method 10312 (Direct) for the identification of asbestos. Briefly, the samples were collapsed with acetone, then etched in a low temperature plasma etcher to remove the top surface of the filter and other organics. The samples were carbon coated at high vacuum with a thin layer of carbon, placed on 200 mesh copper grids and allowed to dissolve in acetone until cleared of filter debris.

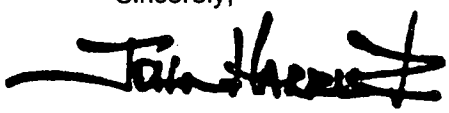
TEM analysis was performed using a transmission electron microscope equipped with an appropriate X-ray analyzer. The air samples were analyzed at various approximate screen magnifications of 5,000x for PCM equivalent structures, 10,000x for asbestos structures > 5.0 µm lengths, and 20,000x for asbestos structures > 0.5 µm lengths. An accelerating voltage of 100 KV was applied. The sizing of grid openings was performed on the microscope at a magnification of approximately 550X.

Counting Rules	Minimum Aspect Ratio	Minimum Length	Required Width	Minimum Required Analytical Sensitivity	Stopping Rules
PCM	3:1	5.0 µm	0.2 - 3.0 µm	NA	100 Structures or 140 grid openings
Other	5:1	0.5 µm	NA	NA	100 Structures or 140 grid openigs
Protocol structures	10:1	5.0 µm	< 0.5 µm	NA	25 Protocol Structures or Analytical Sensitivity

Disclaimer This test report relates only to the items tested in this report. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please do not hesitate to call me. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with analytical services.

Sincerely,



John Harris
Laboratory Director

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040296 *Report Date:* July 12, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	TDD#03-07-0011, 001281.0293.01RS
P. O. No.:	100017-S10-Amendment A
Sample Type:	Air

Tracking Information		
Login:	Mar 24, 2004	*By:* RS
Prep:	Mar 25, 2004	*By:* KM
Verified:	Mar 25, 2004	*By:* KM
Reviewed:	Jul 9, 2004	*By:* JH
Final Review:	Jul 9, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040296-01	04124103	PRIMARY STRUCTURES	37.73	<37.73	37.73 – 46.55	0	12.62	303	10	385	0.1007	JH	4/26/04
Air	Work Area Background	ASBESTOS STRUCTURES	37.73	<37.73	37.73 – 46.55	0							
		ASBESTOS STRUCTURES > 5 µm	37.73	<37.73	37.73 – 46.55	0							
		ASB. FIBERS & BUNDLES > 5 µm	37.73	<37.73	37.73 – 46.55	0							
		PCM EQUIVALENT STRUCTURES	37.73	<37.73	37.73 – 46.55	0							
		PCM EQUIVALENT FIBERS	37.73	<37.73	37.73 – 46.55	0							
		PROTOCOL ASB STRUCS 5-10	37.73	<37.73	37.73 – 46.55	0							
		PROTOCOL ASB STRUCS >10	37.73	<37.73	37.73 – 46.55	0							
		PROTOCOL ASB STRUCS TOTAL	37.73	<37.73	37.73 – 46.55	0							
		PROTOCOL CHRYS STRUCS 5-10	37.73	<37.73	37.73 – 46.55	0							
		PROTOCOL CHRYS STRUCS >10	37.73	<37.73	37.73 – 46.55	0							
		PROTOCOL CHRYS STRUCS TOTAL	37.73	<37.73	37.73 – 46.55	0							
		PROTOCOL AMPH STRUCS 5-10	37.73	<37.73	37.73 – 46.55	0							
		PROTOCOL AMPH STRUCS >10	37.73	<37.73	37.73 – 46.55	0							
		PROTOCOL AMPH STRUCS TOTAL	37.73	<37.73	37.73 – 46.55	0							

4-26-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040296 *Report Date:* July 12, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	TDD#03-07-0011, 001281.0293.01RS
P. O. No.:	100017-S10-Amendment A
Sample Type:	Air

Tracking Information		
Login:	Mar 24, 2004	*By:* RS
Prep:	Mar 25, 2004	*By:* KM
Verified:	Mar 25, 2004	*By:* KM
Reviewed:	Jul 9, 2004	*By:* JH
Final Review:	Jul 9, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040296-02	04124106	PRIMARY STRUCTURES	0.90	89.18	71.61 – 106.74	99	0.90	303.3	140	385	1.4092	JH/KM	4/26/04
		ASBESTOS STRUCTURES	0.90	122.51	101.92 – 143.09	136							
Air	Test Sample	ASBESTOS STRUCTURES > 5 µm	0.90	16.21	9.61 – 25.63	18							
		ASB. FIBERS & BUNDLES > 5 µm	0.90	5.41	1.98 – 11.76	6							
		PCM EQUIVALENT STRUCTURES	0.90	7.21	3.11 – 14.20	8							
		PCM EQUIVALENT FIBERS	0.90	4.50	1.46 – 10.51	5							
		PROTOCOL ASB STRUCS 5-10	0.90	1.80	0.90 – 6.51	2							
		PROTOCOL ASB STRUCS >10	0.90	1.80	0.90 – 6.51	2							
		PROTOCOL ASB STRUCS TOTAL	0.90	3.60	0.98 – 9.23	4							
		PROTOCOL CHRYS STRUCS 5-10	0.90	1.80	0.90 – 6.51	2							
		PROTOCOL CHRYS STRUCS >10	0.90	1.805	0.90 – 6.51	2							
		PROTOCOL CHRYS STRUCS TOTAL	0.90	3.60	0.98 – 9.23	4							
		PROTOCOL AMPH STRUCS 5-10	2.69	<2.69 U	2.69 – 3.32	0							
		PROTOCOL AMPH STRUCS >10	2.69	<2.69	2.69 – 3.32	0							
		PROTOCOL AMPH STRUCS TOTAL	2.69	<2.69	2.69 – 3.32	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040296 *Report Date:* July 12, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	TDD#03-07-0011, 001281.0293.01RS
P. O. No.:	100017-S10-Amendment A
Sample Type:	Air

Tracking Information		
Login:	Mar 24, 2004	*By:* RS
Prep:	Mar 25, 2004	*By:* KM
Verified:	Mar 25, 2004	*By:* KM
Reviewed:	Jul 9, 2004	*By:* JH
Final Review:	Jul 9, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040296-03	04124110	PRIMARY STRUCTURES	37.58	<37.58	37.58 - 46.36	0	12.57	304.2	10	385	0.1007	JH	4/26/04
Air	Work Area Background	ASBESTOS STRUCTURES	37.58	<37.58	37.58 - 46.36	0							
		ASBESTOS STRUCTURES > 5 µm	37.58	<37.58	37.58 - 46.36	0							
		ASB. FIBERS & BUNDLES > 5 µm	37.58	<37.58	37.58 - 46.36	0							
		PCM EQUIVALENT STRUCTURES	37.58	<37.58	37.58 - 46.36	0							
		PCM EQUIVALENT FIBERS	37.58	<37.58	37.58 - 46.36	0							
		PROTOCOL ASB STRUCS 5-10	37.58	<37.58	37.58 - 46.36	0							
		PROTOCOL ASB STRUCS >10	37.58	<37.58	37.58 - 46.36	0							
		PROTOCOL ASB STRUCS TOTAL	37.58	<37.58	37.58 - 46.36	0							
		PROTOCOL CHRYS STRUCS 5-10	37.58	<37.58	37.58 - 46.36	0							
		PROTOCOL CHRYS STRUCS >10	37.58	<37.58	37.58 - 46.36	0							
		PROTOCOL CHRYS STRUCS TOTAL	37.58	<37.58	37.58 - 46.36	0							
		PROTOCOL AMPH STRUCS 5-10	37.58	<37.58	37.58 - 46.36	0							
		PROTOCOL AMPH STRUCS >10	37.58	<37.58	37.58 - 46.36	0							
		PROTOCOL AMPH STRUCS TOTAL	37.58	<37.58	37.58 - 46.36	0							

4/26/04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040296 *Report Date:* July 12, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	TDD#03-07-0011, 001281.0293.01RS
P. O. No.:	100017-S10-Amendment A
Sample Type:	Air

Tracking Information		
Login:	Mar 24, 2004	*By:* RS
Prep:	Mar 25, 2004	*By:* KM
Verified:	Mar 25, 2004	*By:* KM
Reviewed:	Jul 9, 2004	*By:* JH
Final Review:	Jul 9, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040296-04 Air	04124112 Test Sample	PRIMARY STRUCTURES	4.27	4.27	4.27 – 5.02	1	0.90	303	140	385	1.4097	KM	6/30/04
		ASBESTOS STRUCTURES	4.27	4.27	4.27 – 5.02	1							
		ASBESTOS STRUCTURES > 5 µm	4.27	4.27	4.27 – 5.02	1							
		ASB. FIBERS & BUNDLES > 5 µm	4.27	4.27	4.27 – 5.02	1							
		PCM EQUIVALENT STRUCTURES	4.27	4.27	4.27 – 5.02	1							
		PCM EQUIVALENT FIBERS	4.27	4.27	4.27 – 5.02	1							
		PROTOCOL ASB STRUCS 5-10	0.90	0.90	0.90 – 5.02	1							
		PROTOCOL ASB STRUCS >10	2.70	<2.70 U	2.70 – 3.33	0							
		PROTOCOL ASB STRUCS TOTAL	0.90	0.90	0.90 – 5.02	1							
		PROTOCOL CHRYS STRUCS 5-10	2.70	<2.70 U	2.70 – 3.33	0							
		PROTOCOL CHRYS STRUCS >10	2.70	<2.70	2.70 – 3.33	0							
		PROTOCOL CHRYS STRUCS TOTAL	2.70	<2.70	2.70 – 3.33	0							
		PROTOCOL AMPH STRUCS 5-10	2.70	<2.70	2.70 – 3.33	0							
		PROTOCOL AMPH STRUCS >10	2.70	<2.70	2.70 – 3.33	0							
		PROTOCOL AMPH STRUCS TOTAL	2.70	<2.70	2.70 – 3.33	0							

MW 7-27-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040296 *Report Date:* July 12, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	TDD#03-07-0011, 001281.0293.01RS
P. O. No.:	100017-S10-Amendment A
Sample Type:	Air

Tracking Information		
Login:	Mar 24, 2004	*By:* RS
Prep:	Mar 25, 2004	*By:* KM
Verified:	Mar 25, 2004	*By:* KM
Reviewed:	Jul 9, 2004	*By:* JH
Final Review:	Jul 9, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
040296-05	04124118	PRIMARY STRUCTURES	37.65	<37.65	37.65 – 46.46	0	12.59	303.6	10	385	0.1007	JH	4/26/04
Air	Work Area Background	ASBESTOS STRUCTURES	37.65	<37.65	37.65 – 46.46	0							
		ASBESTOS STRUCTURES > 5 µm	37.65	<37.65	37.65 – 46.46	0							
		ASB. FIBERS & BUNDLES > 5 µm	37.65	<37.65	37.65 – 46.46	0							
		PCM EQUIVALENT STRUCTURES	37.65	<37.65	37.65 – 46.46	0							
		PCM EQUIVALENT FIBERS	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL ASB STRUCS 5-10	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL ASB STRUCS >10	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL ASB STRUCS TOTAL	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL CHRYS STRUCS 5-10	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL CHRYS STRUCS >10	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL CHRYS STRUCS TOTAL	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL AMPH STRUCS 5-10	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL AMPH STRUCS >10	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL AMPH STRUCS TOTAL	37.65	<37.65	37.65 – 46.46	0							

MW 7-26-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040296 *Report Date:* July 12, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	TDD#03-07-0011, 001281.0293.01RS
P. O. No.:	100017-S10-Amendment A
Sample Type:	Air

Tracking Information		
Login:	Mar 24, 2004	*By:* RS
Prep:	Mar 25, 2004	*By:* KM
Verified:	Mar 25, 2004	*By:* KM
Reviewed:	Jul 9, 2004	*By:* JH
Final Review:	Jul 9, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040296-06	04124119	PRIMARY STRUCTURES	4.49	4.49	4.49 – 5.15	2	0.71	303	140	385	1.7828	KM	7/1/04
		ASBESTOS STRUCTURES	4.49	4.49	4.49 – 5.15	2							
Air	Test Sample	ASBESTOS STRUCTURES > 5 µm	4.49	4.49	4.49 – 5.15	2							
		ASB. FIBERS & BUNDLES > 5 µm	3.38	3.38	3.38 – 3.97	1							
		PCM EQUIVALENT STRUCTURES	3.38	3.38	3.38 – 3.97	1							
		PCM EQUIVALENT FIBERS	3.38	3.38	3.38 – 3.97	1							
		PROTOCOL ASB STRUCS 5-10	2.13	<2.13 U	2.13 – 2.63	0							
		PROTOCOL ASB STRUCS >10	2.13	<2.13 U	2.13 – 2.63	0							
		PROTOCOL ASB STRUCS TOTAL	0.71	0.71	0.71 – 3.97	1							
		PROTOCOL CHRYS STRUCS 5-10	2.13	<2.13 U	2.13 – 2.63	0							
		PROTOCOL CHRYS STRUCS >10	2.13	<2.13 U	2.13 – 2.63	0							
		PROTOCOL CHRYS STRUCS TOTAL	0.71	0.71	0.71 – 3.97	1							
		PROTOCOL AMPH STRUCS 5-10	2.13	<2.13 U	2.13 – 2.63	0							
		PROTOCOL AMPH STRUCS >10	2.13	<2.13 U	2.13 – 2.63	0							
		PROTOCOL AMPH STRUCS TOTAL	2.13	<2.13 U	2.13 – 2.63	0							

7-12-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040296 *Report Date:* July 12, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	TDD#03-07-0011, 001281.0293.01RS
P. O. No.:	100017-S10-Amendment A
Sample Type:	Air

Tracking Information		
Login:	Mar 24, 2004	*By:* RS
Prep:	Mar 25, 2004	*By:* KM
Verified:	Mar 25, 2004	*By:* KM
Reviewed:	Jul 9, 2004	*By:* JH
Final Review:	Jul 9, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040296-07	04134051	PRIMARY STRUCTURES	37.65	<37.65	37.65 – 46.46	0	12.59	303.6	10	385	0.1007	JH	4/26/04
Air	Work Area Background	ASBESTOS STRUCTURES	37.65	<37.65	37.65 – 46.46	0							
		ASBESTOS STRUCTURES > 5 µm	37.65	<37.65	37.65 – 46.46	0							
		ASB. FIBERS & BUNDLES > 5 µm	37.65	<37.65	37.65 – 46.46	0							
		PCM EQUIVALENT STRUCTURES	37.65	<37.65	37.65 – 46.46	0							
		PCM EQUIVALENT FIBERS	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL ASB STRUCS 5-10	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL ASB STRUCS >10	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL ASB STRUCS TOTAL	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL CHRYS STRUCS 5-10	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL CHRYS STRUCS >10	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL CHRYS STRUCS TOTAL	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL AMPH STRUCS 5-10	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL AMPH STRUCS >10	37.65	<37.65	37.65 – 46.46	0							
		PROTOCOL AMPH STRUCS TOTAL	37.65	<37.65	37.65 – 46.46	0							

4/26/04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040296 *Report Date:* July 12, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	TDD#03-07-0011, 001281.0293.01RS
P. O. No.:	100017-S10-Amendment A
Sample Type:	Air

Tracking Information		
Login:	Mar 24, 2004	*By:* RS
Prep:	Mar 25, 2004	*By:* KM
Verified:	Mar 25, 2004	*By:* KM
Reviewed:	Jul 9, 2004	*By:* JH
Final Review:	Jul 9, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040296-08	04134053	PRIMARY STRUCTURES	3.41	3.41	3.41 – 4.00	1	0.72	301.2	140	385	1.7784	KM	7/6/04
Air	Test Sample	ASBESTOS STRUCTURES	3.41	3.41	3.41 – 4.00	1							
		ASBESTOS STRUCTURES > 5 µm	3.41	3.41	3.41 – 4.00	1							
		ASB. FIBERS & BUNDLES > 5 µm	2.15	<2.15 U	2.15 – 2.65	0							
		PCM EQUIVALENT STRUCTURES	2.15	<2.15	2.15 – 2.65	0							
		PCM EQUIVALENT FIBERS	2.15	<2.15	2.15 – 2.65	0							
		PROTOCOL ASB STRUCS 5-10	2.15	<2.15	2.15 – 2.65	0							
		PROTOCOL ASB STRUCS >10	2.15	<2.15	2.15 – 2.65	0							
		PROTOCOL ASB STRUCS TOTAL	2.15	<2.15	2.15 – 2.65	0							
		PROTOCOL CHRYS STRUCS 5-10	2.15	<2.15	2.15 – 2.65	0							
		PROTOCOL CHRYS STRUCS >10	2.15	<2.15	2.15 – 2.65	0							
		PROTOCOL CHRYS STRUCS TOTAL	2.15	<2.15	2.15 – 2.65	0							
		PROTOCOL AMPH STRUCS 5-10	2.15	<2.15	2.15 – 2.65	0							
		PROTOCOL AMPH STRUCS >10	2.15	<2.15	2.15 – 2.65	0							
		PROTOCOL AMPH STRUCS TOTAL	2.15	<2.15	2.15 – 2.65	0							

h2424 mw

Report Number: 040296 *Report Date:* July 12, 2004

Client Information		Tracking Information			Analysis Information	
Project Name:	Klamath Falls	*Login:*	Mar 24, 2004	*By:* RS	*Analysis Type:*	ISO
Project No.:	TDD#03-07-0011, 001281.0293.01RS	*Prep:*	Mar 25, 2004	*By:* KM	*Reference No.:*	10312
P. O. No.:	100017-S10-Amendment A	*Verified:*	Mar 25, 2004	*By:* KM	*Min. Asp Ratio:*	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Sample Type:	Air	*Reviewed:*	Jul 9, 2004	*By:* JH	*Min. Length:*	5.0 µm (PCM, Protocol) 0.5 µm (Other)
		Final Review:	Jul 9, 2004	*By:* JH	*Req. Width:*	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
040296-09	04134056	PRIMARY STRUCTURES	37.77	<37.77	37.77 – 46.59	0	12.63	302.7	10	385	0.1007	JH	4/26/04
Air	Work Area Background	ASBESTOS STRUCTURES	37.77	<37.77	37.77 – 46.59	0							
		ASBESTOS STRUCTURES > 5 µm	37.77	<37.77	37.77 – 46.59	0							
		ASB. FIBERS & BUNDLES > 5 µm	37.77	<37.77	37.77 – 46.59	0							
		PCM EQUIVALENT STRUCTURES	37.77	<37.77	37.77 – 46.59	0							
		PCM EQUIVALENT FIBERS	37.77	<37.77	37.77 – 46.59	0							
		PROTOCOL ASB STRUCS 5-10	37.77	<37.77	37.77 – 46.59	0							
		PROTOCOL ASB STRUCS >10	37.77	<37.77	37.77 – 46.59	0							
		PROTOCOL ASB STRUCS TOTAL	37.77	<37.77	37.77 – 46.59	0							
		PROTOCOL CHRYS STRUCS 5-10	37.77	<37.77	37.77 – 46.59	0							
		PROTOCOL CHRYS STRUCS >10	37.77	<37.77	37.77 – 46.59	0							
		PROTOCOL CHRYS STRUCS TOTAL	37.77	<37.77	37.77 – 46.59	0							
		PROTOCOL AMPH STRUCS 5-10	37.77	<37.77	37.77 – 46.59	0							
		PROTOCOL AMPH STRUCS >10	37.77	<37.77	37.77 – 46.59	0							
		PROTOCOL AMPH STRUCS TOTAL	37.77	<37.77	37.77 – 46.59	0							

MW 4/26/04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040296 *Report Date:* July 12, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	TDD#03-07-0011, 001281.0293.01RS
P. O. No.:	100017-S10-Amendment A
Sample Type:	Air

Tracking Information		
Login:	Mar 24, 2004	*By:* RS
Prep:	Mar 25, 2004	*By:* KM
Verified:	Mar 25, 2004	*By:* KM
Reviewed:	Jul 9, 2004	*By:* JH
Final Review:	Jul 9, 2004	*By:* JH

Analysis Information	
Analysis Type:	ISO
Reference No.:	10312
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312– Air Sample Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040296-10	04134058	PRIMARY STRUCTURES	2.27	<2.27	2.27 – 2.80	0	0.76	306	140	385	1.6572	KM	7/8/04
Air	Test Sample	ASBESTOS STRUCTURES	2.27	<2.27	2.27 – 2.80	0							
		ASBESTOS STRUCTURES > 5 µm	2.27	<2.27	2.27 – 2.80	0							
		ASB. FIBERS & BUNDLES > 5 µm	2.27	<2.27	2.27 – 2.80	0							
		PCM EQUIVALENT STRUCTURES	2.27	<2.27	2.27 – 2.80	0							
		PCM EQUIVALENT FIBERS	2.27	<2.27	2.27 – 2.80	0							
		PROTOCOL ASB STRUCS 5-10	2.27	<2.27	2.27 – 2.80	0							
		PROTOCOL ASB STRUCS >10	2.27	<2.27	2.27 – 2.80	0							
		PROTOCOL ASB STRUCS TOTAL	2.27	<2.27	2.27 – 2.80	0							
		PROTOCOL CHRYS STRUCS 5-10	2.27	<2.27	2.27 – 2.80	0							
		PROTOCOL CHRYS STRUCS >10	2.27	<2.27	2.27 – 2.80	0							
		PROTOCOL CHRYS STRUCS TOTAL	2.27	<2.27	2.27 – 2.80	0							
		PROTOCOL AMPH STRUCS 5-10	2.27	<2.27	2.27 – 2.80	0							
		PROTOCOL AMPH STRUCS >10	2.27	<2.27	2.27 – 2.80	0							
		PROTOCOL AMPH STRUCS TOTAL	2.27	<2.27	2.27 – 2.80	0							

MW 7-24-04

ecology and environment, inc.
International Specialists in the Environment
2101 Fourth Avenue, Suite 1900, Seattle, WA 98121
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: July 2, 2004

TO: Bill Mehnert, Project Manager, E & E, Portland, OR

FROM: Mark Woodke, START-Chemist, E & E, Seattle, WA

SUBJ: **Inorganic Data Quality Assurance Review, MBK Properties Site, Klamath Falls, Oregon**

REF: TDD: 03-07-0011 PAN: 001281.0293.01RS

The data quality assurance review of 32 soil samples collected from the MBK Properties site in Klamath Falls, Oregon, has been completed. Preparation and analysis of the samples was conducted in accordance with the Modified Elutriator Method for the Determination of Asbestos in Soils and Bulk Material. Transmission Electron Microscopy (TEM) asbestos analyses following ISO method 10312 were performed by Lab/Cor, Inc., Seattle, Washington.

The field samples were numbered:

03090500	03090503	03090504	03090505	03090506
03090508	03090509	03090512	03090513	03090514
03090518	03090519	040356-Dup-12	040356-MB	

The lab air blank samples were numbered: 040356-LB01 through 040356-LB12

The lot blank samples were numbered:

271506-PC-1	271506-PC-2	285096-PC-1	285096-PC-2	295549-MCE-1
295549-MCE-2				

Data Qualifications:

The samples were received at the laboratory on January 2, 2004, and were analyzed by June 28, 2004. No discrepancies were noted in the laboratory narrative.

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and the analytical method.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

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Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

June 28, 2004

Ecology and Environment, Inc.
2101 Fourth Avenue
Suite 1900
Seattle, WA 98121

Attn: Mark Woodke

Project Name: Klamath Falls
Project Number: 001281.0283.01RS, TDD 02-07-0011
P. O. Number: 100008-S10

Lab/Cor Batch Number: 040356

Conditions Enclosed please find results for samples submitted to our laboratory on January 2, 2004. A list of samples received follows, with limitation or rejection criteria noted where applicable.

Lab/Cor Sample No.	Client Sample No.	Limitation/Rejection Criteria
040356-01	3090500	No special conditions were noted
040356-02	3090503	No special conditions were noted
040356-03	3090504	No special conditions were noted
040356-04	3090505	No special conditions were noted
040356-05	3090506	No special conditions were noted
040356-06	3090508	No special conditions were noted
040356-07	3090509	No special conditions were noted
040356-08	3090512	No special conditions were noted
040356-09	3090513	No special conditions were noted
040356-10	3090514	No special conditions were noted
040356-11	3090518	No special conditions were noted
040356-12	3090519	No special conditions were noted
040356-DUP-12		Lab Duplicate of Client Number 3090519
040356-MB		Matrix Blank from Long Beach, WA
040356-LB01		Lab Air Blank for Client Number 3090500
040356-LB02		Lab Air Blank for Client Number 3090503
040356-LB03		Lab Air Blank for Client Number 3090504
040356-LB04		Lab Air Blank for Client Number 3090505
040356-LB05		Lab Air Blank for Client Number 3090506
040356-LB06		Lab Air Blank for Client Number 3090508
040356-LB07		Lab Air Blank for Client Number 3090509
040356-LB08		Lab Air Blank for Client Number 3090512
040356-LB09		Lab Air Blank for Client Number 3090513
040356-LB10		Lab Air Blank for Client Number 3090514
040356-LB11		Lab Air Blank for Client Number 3090518
040356-LB12		Lab Air Blank for Client Number 3090519
271506-PC-1		Lot Blank from PC Filter Lot # 271506
271506-PC-2		Lot Blank from PC Filter Lot # 271506
285096-PC-1		Lot Blank from PC Filter Lot # 285096
285096-PC-2		Lot Blank from PC Filter Lot # 285096
295549-MCE-1		Lot Blank from MCE Filter Lot # 295549
295549-MCE-2		Lot Blank from MCE Filter Lot # 295549

Method Preparation and analysis of the above samples was conducted in accordance with the Modified Elutriator Method for the Determination of Asbestos in Soils and Bulk Material. Soil samples were conditioned then

tumbled to release respirable particles (10 micrometer diamters or less) from the bulk material. The released airborne particles were pulled through a vertical elutriator. Particles were collected on filters through 2 ports, a port connected to a mixed cellulose ester filter cassette or ME port and a port adjusted for isokinetic conditions connected to a polycarbonate filter cassette or IST port. The PC filters were prepared for analysis by cutting 3mm squares onto gold grids, carbon coating at high vacuum, then dissolving the filter material in a 1-methyl-3-pyrrolidinone (NMP):Ethylene diamine solution. After 15 minutes in NMP:Ethylene diamine, grids were rinsed for 15 minutes using reagent alcohol.

TEM analysis was performed using a transmission electron microscope at 100 KV equipped with an appropriate X-ray analyzer. The air samples were analyzed at various approximate screen magnifications of about 20,000x for asbestos structures > 0.5 µm lengths. The sizing of grid openings was performed on the microscope at a magnification of approximately 550X.

Counting Rules	Minimum Aspect Ratio	Minimum Length	Required Width	Minimum Required Analytical Sensitivity	Stopping Rules
PCM	3:1	5.0 µm	0.2 - 3.0 µm	NA	100 Structures or 140 grid openings
Other	5:1	0.5 µm	NA	NA	100 Structures or 140 grid openigs
Protocol structures	10:1	5.0 µm	< 0.5 µm	$3x10^6$ Str/g_{PM10}	25 Protocol Structures or Analytical Sensitivitya

Disclaimer This test report relates only to the items tested in this report. Interpretation of these results is the sole responsibility of the client.

If further clarification of these results is needed, please do not hesitate to call me. Thank you for allowing the staff at Lab/Cor, Inc. the opportunity to provide you with analytical services.

Sincerely,

John Harris
Laboratory Director

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Soil

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concentration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-01	03090500	PRIMARY STRUCTURES	1.84E+06	1.29E+07	5.19E+06 - 2.66E+07	7	1.84E+06	0.00015	140	385	1.3924	KM	5/3/04
		ASBESTOS STRUCTURES	1.84E+06	1.29E+07	5.19E+06 - 2.66E+07	7							
Soil		ASBESTOS STRUCTURES > 5 µm	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		ASB. FIBERS & BUNDLES > 5 µm	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PCM EQUIVALENT STRUCTURES	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PCM EQUIVALENT FIBERS	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL ASB STRUCS 5-10	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL ASB STRUCS >10	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL ASB STRUCS TOTAL	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL CHRYS STRUCS 5-10	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL CHRYS STRUCS >10	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL AMPH STRUCS 5-10	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL AMPH STRUCS >10	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Soil

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concentration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-02	03090503	PRIMARY STRUCTURES	1.97E+06	9.87E+06	3.21E+06 – 2.30E+07	5	1.97E+06	0.00014	140	385	1.3924	KM	4/26/04
		ASBESTOS STRUCTURES	1.97E+06	9.87E+06	3.21E+06 – 2.30E+07	5							
Soil		ASBESTOS STRUCTURES > 5 µm	9.36E+06	9.36E+06	9.36E+06 – 1.10E+07	1							
		ASB. FIBERS & BUNDLES > 5 µm	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PCM EQUIVALENT STRUCTURES	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PCM EQUIVALENT FIBERS	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PROTOCOL ASB STRUCS 5-10	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PROTOCOL ASB STRUCS >10	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PROTOCOL ASB STRUCS TOTAL	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PROTOCOL CHRYS STRUCS 5-10	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PROTOCOL CHRYS STRUCS >10	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PROTOCOL AMPH STRUCS 5-10	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PROTOCOL AMPH STRUCS >10	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Soil

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concentration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-03	03090504	PRIMARY STRUCTURES	1.97E+06	5.33E+07	3.51E+07 – 7.56E+07	27	1.97E+06	0.00014	140	385	1.3924	KM	4/28/04
		ASBESTOS STRUCTURES	1.97E+06	5.33E+07	3.51E+07 – 7.56E+07	27							
Soil		ASBESTOS STRUCTURES > 5 µm	1.97E+06	1.18E+07	4.35E+06 - 2.58E+07	6							
		ASB. FIBERS & BUNDLES > 5 µm	1.97E+06	7.90E+06	2.15E+06 – 2.02E+07	4							
		PCM EQUIVALENT STRUCTURES	1.24E+07	1.24E+07	1.24E+07 – 1.43E+07	2							
		PCM EQUIVALENT FIBERS	1.24E+07	1.97E+06	1.24E+07 – 1.43E+07	2							
		PROTOCOL ASB STRUCS 5-10	1.97E+06	1.97E+06	1.97E+06 – 1.10E+07	1							
		PROTOCOL ASB STRUCS >10	1.97E+06	5.92E+06	1.97E+06 – 1.73E+07	3							
		PROTOCOL ASB STRUCS TOTAL	1.97E+06	7.90E+06	2.15E+06 – 2.02E+07	4							
		PROTOCOL CHRYS STRUCS 5-10	1.97E+06	1.97E+06	1.97E+06 – 1.10E+07	1							
		PROTOCOL CHRYS STRUCS >10	1.97E+06	5.92E+06	1.97E+06 – 1.73E+07	3							
		PROTOCOL CHRYS STRUCS TOTAL	1.97E+06	7.90E+06	2.15E+06 – 2.02E+07	4							
		PROTOCOL AMPH STRUCS 5-10	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PROTOCOL AMPH STRUCS >10	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	5.91E+06	<5.91E+06	5.91E+06 – 7.29E+06	0							

4-28-04

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Soil

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concentration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-04	03090505	PRIMARY STRUCTURES	5.91E+06	<5.91E+06 U	5.91E+06 - 7.29E+06	0	1.97E+06	0.00014	140	385	1.3924	KM	4/29/04
		ASBESTOS STRUCTURES	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
Soil		ASBESTOS STRUCTURES > 5 µm	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
		ASB. FIBERS & BUNDLES > 5 µm	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
		PCM EQUIVALENT STRUCTURES	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
		PCM EQUIVALENT FIBERS	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
		PROTOCOL ASB STRUCS 5-10	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
		PROTOCOL ASB STRUCS >10	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
		PROTOCOL ASB STRUCS TOTAL	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
		PROTOCOL CHRYS STRUCS 5-10	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
		PROTOCOL CHRYS STRUCS >10	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
		PROTOCOL AMPH STRUCS 5-10	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
		PROTOCOL AMPH STRUCS >10	5.91E+06	<5.91E+06	5.91E+06 - 7.29E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	5.91E+06	<5.91E+06 U	5.91E+06 - 7.29E+06	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Soil

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concentration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-05	03090506	PRIMARY STRUCTURES	8.19E+06	<8.19E+06	8.19E+06 - 9.63E+06	1	1.73E+06	0.00016	140	385	1.3924	KM	5/2/04
		ASBESTOS STRUCTURES	8.19E+06	<8.19E+06	8.19E+06 - 9.63E+06	1							
Soil		ASBESTOS STRUCTURES > 5 µm	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		ASB. FIBERS & BUNDLES > 5 µm	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PCM EQUIVALENT STRUCTURES	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PCM EQUIVALENT FIBERS	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL ASB STRUCS 5-10	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL ASB STRUCS >10	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL ASB STRUCS TOTAL	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL CHRYS STRUCS 5-10	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL CHRYS STRUCS >10	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL AMPH STRUCS 5-10	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL AMPH STRUCS >10	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Soil

Tracking Information			
Login:	Jan 2, 2004	*By:*	RS
Prep:	Apr 9, 2004	*By:*	CJ
Verified:	Apr 9, 2004	*By:*	CJ
Reviewed:	Jun 17, 2004	*By:*	JH
Final Review:	Jun 28, 2004	*By:*	JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concentration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-06	03090508	PRIMARY STRUCTURES	1.38E+06	1.52E+07	7.59E+06 - 2.72E+07	11	1.38E+06	0.0002	140	385	1.3924	KM	5/04/04
		ASBESTOS STRUCTURES	1.38E+06	1.52E+07	7.59E+06 - 2.72E+07	11							
Soil		ASBESTOS STRUCTURES > 5 µm	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							
		ASB. FIBERS & BUNDLES > 5 µm	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							
		PCM EQUIVALENT STRUCTURES	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							
		PCM EQUIVALENT FIBERS	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							
		PROTOCOL ASB STRUCS 5-10	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							
		PROTOCOL ASB STRUCS >10	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							
		PROTOCOL ASB STRUCS TOTAL	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							
		PROTOCOL CHRYS STRUCS 5-10	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							
		PROTOCOL CHRYS STRUCS >10	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							
		PROTOCOL AMPH STRUCS 5-10	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							
		PROTOCOL AMPH STRUCS >10	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	4.13E+06	<4.13E+06	4.13E+06 - 5.10E+06	0							

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Soil

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concentration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-07	03090509	PRIMARY STRUCTURES	1.02E+06	4.10E+06	1.12E+06 - 1.05E+07	4	1.02E+06	0.00027	140	385	1.3924	KM	5/5/05
		ASBESTOS STRUCTURES	1.02E+06	4.10E+06	1.12E+06 - 1.05E+07	4							
Soil		ASBESTOS STRUCTURES > 5 µm	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							
		ASB. FIBERS & BUNDLES > 5 µm	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							
		PCM EQUIVALENT STRUCTURES	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							
		PCM EQUIVALENT FIBERS	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							
		PROTOCOL ASB STRUCS 5-10	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							
		PROTOCOL ASB STRUCS >10	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							
		PROTOCOL ASB STRUCS TOTAL	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							
		PROTOCOL CHRYS STRUCS 5-10	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							
		PROTOCOL CHRYS STRUCS >10	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							
		PROTOCOL AMPH STRUCS 5-10	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							
		PROTOCOL AMPH STRUCS >10	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	3.06E+06	<3.06E+06	3.06E+06 - 3.78E+06	0							

AMW 7/20/04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Soil

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concentration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-08	03090512	PRIMARY STRUCTURES	1.26E+06	1.26E+07	6.03E+06 - 2.31E+07	10	1.26E+06	0.00022	140	385	1.3924	KM	5/7/04
		ASBESTOS STRUCTURES	1.26E+06	1.26E+07	6.03E+06 - 2.31E+07	10							
Soil		ASBESTOS STRUCTURES > 5 µm	5.96E+06	5.96E+06	5.96E+06 - 7.00E+06	1							
		ASB. FIBERS & BUNDLES > 5 µm	3.76E+06	<3.76E+06	3.76E+06 - 4.64E+06	0							
		PCM EQUIVALENT STRUCTURES	3.76E+06	<3.76E+06	3.76E+06 - 4.64E+06	0							
		PCM EQUIVALENT FIBERS	3.76E+06	<3.76E+06	3.76E+06 - 4.64E+06	0							
		PROTOCOL ASB STRUCS 5-10	3.76E+06	<3.76E+06	3.76E+06 - 4.64E+06	0							
		PROTOCOL ASB STRUCS >10	3.76E+06	<3.76E+06	3.76E+06 - 4.64E+06	0							
		PROTOCOL ASB STRUCS TOTAL	3.76E+06	<3.76E+06	3.76E+06 - 4.64E+06	0							
		PROTOCOL CHRYS STRUCS 5-10	3.76E+06	<3.76E+06	3.76E+06 - 4.64E+06	0							
		PROTOCOL CHRYS STRUCS >10	3.76E+06	<3.76E+06	3.76E+06 - 4.64E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	3.76E+06	<3.76E+06	3.76E+06 - 4.64E+06	0							
		PROTOCOL AMPH STRUCS 5-10	3.76E+06	<3.76E+06	3.76E+06 - 4.64E+06	0							
		PROTOCOL AMPH STRUCS >10	3.76E+06	<3.76E+06	3.76E+06 - 4.64E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	3.76E+06	3.76E+06	3.76E+06 - 4.64E+06	0							

Report Number: 040356 *Report Date:* June 28, 2004

Client Information		Tracking Information			Analysis Information	
Project Name:	Klamath Falls	*Login:*	Jan 2, 2004	*By:* RS	*Analysis Type:*	EPA
Project No.:	001281.0283.01RS; TDD 02-07-0011	*Prep:*	Apr 9, 2004	*By:* CJ	*Reference No.:*	Modified Elutriator
P. O. No.:	100008-S10	*Verified:*	Apr 9, 2004	*By:* CJ	*Min. Asp Ratio:*	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Sample Type:	Soil	*Reviewed:*	Jun 17, 2004	*By:* JH	*Min. Length:*	5.0 µm (PCM, Protocol) 0.5 µm (Other)
		Final Review:	Jun 28, 2004	*By:* JH	*Req. Width:*	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concentration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-09	03090513	PRIMARY STRUCTURES	6.90E+06	6.90E+06	6.90E+06 - 8.11E+06	1	1.46E+06	0.00019	140	385	1.3924	JH	5/10/04
		ASBESTOS STRUCTURES	6.90E+06	6.90E+06	6.90E+06 - 8.11E+06	1							
Soil		ASBESTOS STRUCTURES > 5 µm	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							
		ASB. FIBERS & BUNDLES > 5 µm	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							
		PCM EQUIVALENT STRUCTURES	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							
		PCM EQUIVALENT FIBERS	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							
		PROTOCOL ASB STRUCS 5-10	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							
		PROTOCOL ASB STRUCS >10	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							
		PROTOCOL ASB STRUCS TOTAL	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							
		PROTOCOL CHRYS STRUCS 5-10	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							
		PROTOCOL CHRYS STRUCS >10	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							
		PROTOCOL AMPH STRUCS 5-10	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							
		PROTOCOL AMPH STRUCS >10	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	4.35E+06	<4.35E+06	4.35E+06 - 5.37E+06	0							

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Soil

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concen-tration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-10	03090514	PRIMARY STRUCTURES	1.43E+07	1.43E+07	1.43E+07 - 1.62E+07	3	1.84E+06	0.00015	140	385	1.3924	KM	5/10/04
		ASBESTOS STRUCTURES	1.43E+07	1.43E+07	1.43E+07 - 1.62E+07	3							
Soil		ASBESTOS STRUCTURES > 5 µm	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		ASB. FIBERS & BUNDLES > 5 µm	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PCM EQUIVALENT STRUCTURES	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PCM EQUIVALENT FIBERS	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL ASB STRUCS 5-10	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL ASB STRUCS >10	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL ASB STRUCS TOTAL	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL CHRYS STRUCS 5-10	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL CHRYS STRUCS >10	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL AMPH STRUCS 5-10	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL AMPH STRUCS >10	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	5.51E+06	<5.51E+06	5.51E+06 - 6.80E+06	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Soil

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concentration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-11	03090518	PRIMARY STRUCTURES	8.19E+06	8.19E+06	8.19E+06 - 9.63E+06	1	1.73E+06	0.00016	140	385	1.3924	JH	5/10/04
		ASBESTOS STRUCTURES	8.19E+06	8.19E+06	8.19E+06 - 9.63E+06	1							
Soil		ASBESTOS STRUCTURES > 5 µm	8.19E+06	8.19E+06	8.19E+06 - 9.63E+06	1							
		ASB. FIBERS & BUNDLES > 5 µm	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PCM EQUIVALENT STRUCTURES	8.19E+06	8.19E+06	8.19E+06 - 9.63E+06	1							
		PCM EQUIVALENT FIBERS	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL ASB STRUCS 5-10	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL ASB STRUCS >10	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL ASB STRUCS TOTAL	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL CHRYS STRUCS 5-10	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL CHRYS STRUCS >10	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL AMPH STRUCS 5-10	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL AMPH STRUCS >10	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	5.17E+06	<5.17E+06	5.17E+06 - 6.38E+06	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Soil

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concen-tration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-12	03090519	PRIMARY STRUCTURES	1.46E+06	2.04E+07	1.11E+07 - 3.42E+07	14	1.46E+06	0.00019	140	385	1.3924	KM/DW	5/10/04
		ASBESTOS STRUCTURES	1.46E+06	2.04E+07	1.11E+07 - 3.42E+07	14							
Soil		ASBESTOS STRUCTURES > 5 µm	1.46E+06	1.16E+07	5.03E+06 - 2.29E+07	8							
		ASB. FIBERS & BUNDLES > 5 µm	9.17E+06	9.17E+06	9.17E+06 – 1.05E+07	2							
		PCM EQUIVALENT STRUCTURES	6.90E+06	6.90E+06	6.90E+06 – 8.11E+06	1							
		PCM EQUIVALENT FIBERS	6.90E+06	6.90E+06	6.90E+06 - 8.11E+06	1							
		PROTOCOL ASB STRUCS 5-10	1.46E+06	1.46E+06	1.46E+06 - 8.11E+06	1							
		PROTOCOL ASB STRUCS >10	4.35E+06	<4.35E+06 U	4.35E+06 - 5.37E+06	0							
		PROTOCOL ASB STRUCS TOTAL	1.46E+06	1.46E+06	1.46E+06 - 8.11E+06	1							
		PROTOCOL CHRYS STRUCS 5-10	1.46E+06	1.46E+06	1.46E+06 - 8.11E+06	1							
		PROTOCOL CHRYS STRUCS >10	4.35E+06	<4.35E+06 U	4.35E+06 - 5.37E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	1.46E+06	1.46E+06	1.46E+06 - 8.11E+06	1							
		PROTOCOL AMPH STRUCS 5-10	4.35E+06	<4.35E+06 U	4.35E+06 - 5.37E+06	0							
		PROTOCOL AMPH STRUCS >10	4.35E+06	<4.35E+06 U	4.35E+06 - 5.37E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	4.35E+06	<4.35E+06 U	4.35E+06 - 5.37E+06	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Soil

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concentration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-DUP-12 Soil		PRIMARY STRUCTURES	1.32E+06	1.45E+07 -	7.23E+06 - 2.59E+07	11	1.32E+06	0.00021	140	385	1.3924	KM	6/26/04
		ASBESTOS STRUCTURES	1.32E+06	1.58E+07	8.16E+06 - 2.76E+07	12							
		ASBESTOS STRUCTURES > 5 µm	1.02E+07	1.02E+07	1.02E+07 - 1.15E+07	3							
		ASB. FIBERS & BUNDLES > 5 µm	8.29E+06	8.29E+06	8.29E+06 - 9.51E+06	2							
		PCM EQUIVALENT STRUCTURES	6.24E+06	6.24E+06	6.24E+06 - 7.34E+06	1							
		PCM EQUIVALENT FIBERS	6.24E+06	6.24E+06	6.24E+06 - 7.34E+06	1							
		PROTOCOL ASB STRUCS 5-10	1.32E+06	1.32E+06	1.32E+06 - 7.34E+06	1							
		PROTOCOL ASB STRUCS >10	3.94E+06	<3.94E+06 U	3.94E+06 - 4.86E+06	0							
		PROTOCOL ASB STRUCS TOTAL	1.32E+06	1.32E+06	1.32E+06 - 7.34E+06	1							
		PROTOCOL CHRYS STRUCS 5-10	1.32E+06	1.32E+06	1.32E+06 - 7.34E+06	1							
		PROTOCOL CHRYS STRUCS >10	3.94E+06	<3.94E+06 U	3.94E+06 - 4.86E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	1.32E+06	1.32E+06	1.32E+06 - 7.34E+06	1							
		PROTOCOL AMPH STRUCS 5-10	3.94E+06	<3.94E+06 U	3.94E+06 - 4.86E+06	0							
		PROTOCOL AMPH STRUCS >10	3.94E+06	<3.94E+06 U	3.94E+06 - 4.86E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	3.94E+06	<3.94E+06 U	3.94E+06 - 4.86E+06	0							

6-27-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information		Tracking Information			Analysis Information	
Project Name:	Klamath Falls	*Login:*	Jan 2, 2004	*By:* RS	*Analysis Type:*	EPA
Project No.:	001281.0283.01RS; TDD 02-07-0011	*Prep:*	Apr 9, 2004	*By:* CJ	*Reference No.:*	Modified Elutriator
P. O. No.:	100008-S10	*Verified:*	Apr 9, 2004	*By:* CJ	*Min. Asp Ratio:*	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Sample Type:	Soil	*Reviewed:*	Jun 17, 2004	*By:* JH	*Min. Length:*	5.0 µm (PCM, Protocol) 0.5 µm (Other)
		Final Review:	Jun 28, 2004	*By:* JH	*Req. Width:*	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (str/gPM$_{10}$)	Concentration (str/gPM$_{10}$)	95% Confidence Interval (str/gPM$_{10}$)	Struc. Count	Analytical Sens. (str/gPM$_{10}$)	PM$_{10}$ weight (g)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-MB Soil		PRIMARY STRUCTURES	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0	7.47E+05	0.00019	140	385	1.3924	KM	6/24/04
		ASBESTOS STRUCTURES	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		ASBESTOS STRUCTURES > 5 µm	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		ASB. FIBERS & BUNDLES > 5 µm	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		PCM EQUIVALENT STRUCTURES	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		PCM EQUIVALENT FIBERS	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		PROTOCOL ASB STRUCS 5-10	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		PROTOCOL ASB STRUCS >10	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		PROTOCOL ASB STRUCS TOTAL	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		PROTOCOL CHRYS STRUCS 5-10	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		PROTOCOL CHRYS STRUCS >10	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		PROTOCOL CHRYS STRUCS TOTAL	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		PROTOCOL AMPH STRUCS 5-10	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		PROTOCOL AMPH STRUCS >10	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							
		PROTOCOL AMPH STRUCS TOTAL	2.23E+06	< 2.23E+06	2.23E+06 - 2.76E+06	0							

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Air

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-LB01		PRIMARY STRUCTURES	4.07	< 4.07	4.07 - 5.03	0	1.3626	1950	10	385	0.1449	KM	6/14/04
		ASBESTOS STRUCTURES	4.07	< 4.07	4.07 - 5.03	0							
Lab Blank		ASBESTOS STRUCTURES > 5 µm	4.07	< 4.07	4.07 - 5.03	0							
		ASB. FIBERS & BUNDLES > 5 µm	4.07	< 4.07	4.07 - 5.03	0							
		PCM EQUIVALENT STRUCTURES	4.07	< 4.07	4.07 - 5.03	0							
		PCM EQUIVALENT FIBERS	4.07	< 4.07	4.07 - 5.03	0							
		PROTOCOL ASB STRUCS 5-10	4.07	< 4.07	4.07 - 5.03	0							
		PROTOCOL ASB STRUCS >10	4.07	< 4.07	4.07 - 5.03	0							
		PROTOCOL ASB STRUCS TOTAL	4.07	< 4.07	4.07 - 5.03	0							
		PROTOCOL CHRYS STRUCS 5-10	4.07	< 4.07	4.07 - 5.03	0							
		PROTOCOL CHRYS STRUCS >10	4.07	< 4.07	4.07 - 5.03	0							
		PROTOCOL CHRYS STRUCS TOTAL	4.07	< 4.07	4.07 - 5.03	0							
		PROTOCOL AMPH STRUCS 5-10	4.07	< 4.07	4.07 - 5.03	0							
		PROTOCOL AMPH STRUCS >10	4.07	< 4.07	4.07 - 5.03	0							
		PROTOCOL AMPH STRUCS TOTAL	4.07	< 4.07	4.07 - 5.03	0							

6-28-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Air

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-LB02		PRIMARY STRUCTURES	5.30	< 5.30	5.30 - 6.53	0	1.7713	1500	10	385	0.1449	KM	6/16/04
		ASBESTOS STRUCTURES	5.30	< 5.30	5.30 - 6.53	0							
Lab Blank		ASBESTOS STRUCTURES > 5 µm	5.30	< 5.30	5.30 - 6.53	0							
		ASB. FIBERS & BUNDLES > 5 µm	5.30	< 5.30	5.30 - 6.53	0							
		PCM EQUIVALENT STRUCTURES	5.30	< 5.30	5.30 - 6.53	0							
		PCM EQUIVALENT FIBERS	5.30	< 5.30	5.30 - 6.53	0							
		PROTOCOL ASB STRUCS 5-10	5.30	< 5.30	5.30 - 6.53	0							
		PROTOCOL ASB STRUCS >10	5.30	< 5.30	5.30 - 6.53	0							
		PROTOCOL ASB STRUCS TOTAL	5.30	< 5.30	5.30 - 6.53	0							
		PROTOCOL CHRYS STRUCS 5-10	5.30	< 5.30	5.30 - 6.53	0							
		PROTOCOL CHRYS STRUCS >10	5.30	< 5.30	5.30 - 6.53	0							
		PROTOCOL CHRYS STRUCS TOTAL	5.30	< 5.30	5.30 - 6.53	0							
		PROTOCOL AMPH STRUCS 5-10	5.30	< 5.30	5.30 - 6.53	0							
		PROTOCOL AMPH STRUCS >10	5.30	< 5.30	5.30 - 6.53	0							
		PROTOCOL AMPH STRUCS TOTAL	5.30	< 5.30	5.30 - 6.53	0							

6-24-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Air

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-LB03		PRIMARY STRUCTURES	5.00	5.00	5.00 - 6.16	0	1.6711	1590	10	385	0.1449	KM	6/16/04
		ASBESTOS STRUCTURES	5.00	5.00	5.00 - 6.16	0							
Lab Blank		ASBESTOS STRUCTURES > 5 µm	5.00	5.00	5.00 - 6.16	0							
		ASB. FIBERS & BUNDLES > 5 µm	5.00	5.00	5.00 - 6.16	0							
		PCM EQUIVALENT STRUCTURES	5.00	5.00	5.00 - 6.16	0							
		PCM EQUIVALENT FIBERS	5.00	5.00	5.00 - 6.16	0							
		PROTOCOL ASB STRUCS 5-10	5.00	5.00	5.00 - 6.16	0							
		PROTOCOL ASB STRUCS >10	5.00	5.00	5.00 - 6.16	0							
		PROTOCOL ASB STRUCS TOTAL	5.00	5.00	5.00 - 6.16	0							
		PROTOCOL CHRYS STRUCS 5-10	5.00	5.00	5.00 - 6.16	0							
		PROTOCOL CHRYS STRUCS >10	5.00	5.00	5.00 - 6.16	0							
		PROTOCOL CHRYS STRUCS TOTAL	5.00	5.00	5.00 - 6.16	0							
		PROTOCOL AMPH STRUCS 5-10	5.00	5.00	5.00 - 6.16	0							
		PROTOCOL AMPH STRUCS >10	5.00	5.00	5.00 - 6.16	0							
		PROTOCOL AMPH STRUCS TOTAL	5.00	5.00	5.00 - 6.16	0							

MW 7-2-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information		Tracking Information			Analysis Information	
Project Name:	Klamath Falls	*Login:*	Jan 2, 2004	*By:* RS	*Analysis Type:*	EPA
Project No.:	001281.0283.01RS; TDD 02-07-0011	*Prep:*	Apr 9, 2004	*By:* CJ	*Reference No.:*	Modified Elutriator
P. O. No.:	100008-S10	*Verified:*	Apr 9, 2004	*By:* CJ	*Min. Asp Ratio:*	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Sample Type:	Air	*Reviewed:*	Jun 17, 2004	*By:* JH	*Min. Length:*	5.0 µm (PCM, Protocol) 0.5 µm (Other)
		Final Review:	Jun 28, 2004	*By:* JH	*Req. Width:*	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
040356-LB04		PRIMARY STRUCTURES	4.90	< 4.90 U	4.90 - 6.05	0	1.6401	1620	10	385	0.1449	KM	6/16/04
		ASBESTOS STRUCTURES	4.90	< 4.90	4.90 - 6.05	0							
Lab Blank		ASBESTOS STRUCTURES > 5 µm	4.90	< 4.90	4.90 - 6.05	0							
		ASB. FIBERS & BUNDLES > 5 µm	4.90	< 4.90	4.90 - 6.05	0							
		PCM EQUIVALENT STRUCTURES	4.90	< 4.90	4.90 - 6.05	0							
		PCM EQUIVALENT FIBERS	4.90	< 4.90	4.90 - 6.05	0							
		PROTOCOL ASB STRUCS 5-10	4.90	< 4.90	4.90 - 6.05	0							
		PROTOCOL ASB STRUCS >10	4.90	< 4.90	4.90 - 6.05	0							
		PROTOCOL ASB STRUCS TOTAL	4.90	< 4.90	4.90 - 6.05	0							
		PROTOCOL CHRYS STRUCS 5-10	4.90	< 4.90	4.90 - 6.05	0							
		PROTOCOL CHRYS STRUCS >10	4.90	< 4.90	4.90 - 6.05	0							
		PROTOCOL CHRYS STRUCS TOTAL	4.90	< 4.90	4.90 - 6.05	0							
		PROTOCOL AMPH STRUCS 5-10	4.90	< 4.90	4.90 - 6.05	0							
		PROTOCOL AMPH STRUCS >10	4.90	< 4.90	4.90 - 6.05	0							
		PROTOCOL AMPH STRUCS TOTAL	4.90	< 4.90	4.90 - 6.05	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Air

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
040356-LB05		PRIMARY STRUCTURES	4.01	< 4.01	4.01 - 4.95	0	1.3419	1980	10	385	0.1449	KM	6/16/04
		ASBESTOS STRUCTURES	4.01	< 4.01	4.01 - 4.95	0							
Lab Blank		ASBESTOS STRUCTURES > 5 µm	4.01	< 4.01	4.01 - 4.95	0							
		ASB. FIBERS & BUNDLES > 5 µm	4.01	< 4.01	4.01 - 4.95	0							
		PCM EQUIVALENT STRUCTURES	4.01	< 4.01	4.01 - 4.95	0							
		PCM EQUIVALENT FIBERS	4.01	< 4.01	4.01 - 4.95	0							
		PROTOCOL ASB STRUCS 5-10	4.01	< 4.01	4.01 - 4.95	0							
		PROTOCOL ASB STRUCS >10	4.01	< 4.01	4.01 - 4.95	0							
		PROTOCOL ASB STRUCS TOTAL	4.01	< 4.01	4.01 - 4.95	0							
		PROTOCOL CHRYS STRUCS 5-10	4.01	< 4.01	4.01 - 4.95	0							
		PROTOCOL CHRYS STRUCS >10	4.01	< 4.01	4.01 - 4.95	0							
		PROTOCOL CHRYS STRUCS TOTAL	4.01	< 4.01	4.01 - 4.95	0							
		PROTOCOL AMPH STRUCS 5-10	4.01	< 4.01	4.01 - 4.95	0							
		PROTOCOL AMPH STRUCS >10	4.01	< 4.01	4.01 - 4.95	0							
		PROTOCOL AMPH STRUCS TOTAL	4.01	< 4.01	4.01 - 4.95	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Air

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (struc/L)	Concen-tration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-LB06		PRIMARY STRUCTURES	7.22	< 7.22	7.22 - 8.91	0	2.4155	1100	10	385	0.1449	KM	6/14/04
		ASBESTOS STRUCTURES	7.22	< 7.22	7.22 - 8.91	0							
Lab Blank		ASBESTOS STRUCTURES > 5 µm	7.22	< 7.22	7.22 - 8.91	0							
		ASB. FIBERS & BUNDLES > 5 µm	7.22	< 7.22	7.22 - 8.91	0							
		PCM EQUIVALENT STRUCTURES	7.22	< 7.22	7.22 - 8.91	0							
		PCM EQUIVALENT FIBERS	7.22	< 7.22	7.22 - 8.91	0							
		PROTOCOL ASB STRUCS 5-10	7.22	< 7.22	7.22 - 8.91	0							
		PROTOCOL ASB STRUCS >10	7.22	< 7.22	7.22 - 8.91	0							
		PROTOCOL ASB STRUCS TOTAL	7.22	< 7.22	7.22 - 8.91	0							
		PROTOCOL CHRYS STRUCS 5-10	7.22	< 7.22	7.22 - 8.91	0							
		PROTOCOL CHRYS STRUCS >10	7.22	< 7.22	7.22 - 8.91	0							
		PROTOCOL CHRYS STRUCS TOTAL	7.22	< 7.22	7.22 - 8.91	0							
		PROTOCOL AMPH STRUCS 5-10	7.22	< 7.22	7.22 - 8.91	0							
		PROTOCOL AMPH STRUCS >10	7.22	< 7.22	7.22 - 8.91	0							
		PROTOCOL AMPH STRUCS TOTAL	7.22	< 7.22	7.22 - 8.91	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Air

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
040356-LB07		PRIMARY STRUCTURES	7.57	< 7.57	7.57 - 9.33	0	2.5305	1050	10	385	0.1449	KM	6/16/04
		ASBESTOS STRUCTURES	7.57	< 7.57	7.57 - 9.33	0							
Lab Blank		ASBESTOS STRUCTURES > 5 µm	7.57	< 7.57	7.57 - 9.33	0							
		ASB. FIBERS & BUNDLES > 5 µm	7.57	< 7.57	7.57 - 9.33	0							
		PCM EQUIVALENT STRUCTURES	7.57	< 7.57	7.57 - 9.33	0							
		PCM EQUIVALENT FIBERS	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL ASB STRUCS 5-10	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL ASB STRUCS >10	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL ASB STRUCS TOTAL	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL CHRYS STRUCS 5-10	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL CHRYS STRUCS >10	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL CHRYS STRUCS TOTAL	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL AMPH STRUCS 5-10	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL AMPH STRUCS >10	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL AMPH STRUCS TOTAL	7.57	< 7.57	7.57 - 9.33	0							

MW 7-2-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Air

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-LB08		PRIMARY STRUCTURES	9.00	< 9.00	9.00 – 10.57	1	1.8979	1400	10	385	0.1449	KM	6/16/04
		ASBESTOS STRUCTURES	9.00	< 9.00	9.00 – 10.57	1							
Lab Blank		ASBESTOS STRUCTURES > 5 µm	9.00	< 9.00	9.00 – 10.57	1							
		ASB. FIBERS & BUNDLES > 5 µm	9.00	< 9.00	9.00 – 10.57	1							
		PCM EQUIVALENT STRUCTURES	9.00	< 9.00	9.00 – 10.57	1							
		PCM EQUIVALENT FIBERS	9.00	< 9.00	9.00 – 10.57	1							
		PROTOCOL ASB STRUCS 5-10	5.67	< 5.67	5.67 – 7.00	0							
		PROTOCOL ASB STRUCS >10	5.67	< 5.67	5.67 – 7.00	0							
		PROTOCOL ASB STRUCS TOTAL	5.67	< 5.67	5.67 – 7.00	0							
		PROTOCOL CHRYS STRUCS 5-10	5.67	< 5.67	5.67 – 7.00	0							
		PROTOCOL CHRYS STRUCS >10	5.67	< 5.67	5.67 – 7.00	0							
		PROTOCOL CHRYS STRUCS TOTAL	5.67	< 5.67	5.67 – 7.00	0							
		PROTOCOL AMPH STRUCS 5-10	5.67	< 5.67	5.67 – 7.00	0							
		PROTOCOL AMPH STRUCS >10	5.67	< 5.67	5.67 – 7.00	0							
		PROTOCOL AMPH STRUCS TOTAL	5.67	< 5.67	5.67 – 7.00	0							

MW 7-24

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Air

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
040356-LB09		PRIMARY STRUCTURES	8.83	< 8.83	8.83 – 10.89	0	2.9522	900	10	385	0.1449	KM	6/16/04
		ASBESTOS STRUCTURES	8.83	< 8.83	8.83 – 10.89	0							
Lab Blank		ASBESTOS STRUCTURES > 5 µm	8.83	< 8.83	8.83 – 10.89	0							
		ASB. FIBERS & BUNDLES > 5 µm	8.83	< 8.83	8.83 – 10.89	0							
		PCM EQUIVALENT STRUCTURES	8.83	< 8.83	8.83 – 10.89	0							
		PCM EQUIVALENT FIBERS	8.83	< 8.83	8.83 – 10.89	0							
		PROTOCOL ASB STRUCS 5-10	8.83	< 8.83	8.83 – 10.89	0							
		PROTOCOL ASB STRUCS >10	8.83	< 8.83	8.83 – 10.89	0							
		PROTOCOL ASB STRUCS TOTAL	8.83	< 8.83	8.83 – 10.89	0							
		PROTOCOL CHRYS STRUCS 5-10	8.83	< 8.83	8.83 – 10.89	0							
		PROTOCOL CHRYS STRUCS >10	8.83	< 8.83	8.83 – 10.89	0							
		PROTOCOL CHRYS STRUCS TOTAL	8.83	< 8.83	8.83 – 10.89	0							
		PROTOCOL AMPH STRUCS 5-10	8.83	< 8.83	8.83 – 10.89	0							
		PROTOCOL AMPH STRUCS >10	8.83	< 8.83	8.83 – 10.89	0							
		PROTOCOL AMPH STRUCS TOTAL	8.83	< 8.83	8.83 – 10.89	0							

MW 7-2-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Air

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-LB10		PRIMARY STRUCTURES	5.30	< 5.30	5.30 – 6.53	0	1.7713	1500	10	385	0.1449	KM	6/16/04
		ASBESTOS STRUCTURES	5.30	< 5.30	5.30 – 6.53	0							
Lab Blank		ASBESTOS STRUCTURES > 5 µm	5.30	< 5.30	5.30 – 6.53	0							
		ASB. FIBERS & BUNDLES > 5 µm	5.30	< 5.30	5.30 – 6.53	0							
		PCM EQUIVALENT STRUCTURES	5.30	< 5.30	5.30 – 6.53	0							
		PCM EQUIVALENT FIBERS	5.30	< 5.30	5.30 – 6.53	0							
		PROTOCOL ASB STRUCS 5-10	5.30	< 5.30	5.30 – 6.53	0							
		PROTOCOL ASB STRUCS >10	5.30	< 5.30	5.30 – 6.53	0							
		PROTOCOL ASB STRUCS TOTAL	5.30	< 5.30	5.30 – 6.53	0							
		PROTOCOL CHRYS STRUCS 5-10	5.30	< 5.30	5.30 – 6.53	0							
		PROTOCOL CHRYS STRUCS >10	5.30	< 5.30	5.30 – 6.53	0							
		PROTOCOL CHRYS STRUCS TOTAL	5.30	< 5.30	5.30 – 6.53	0							
		PROTOCOL AMPH STRUCS 5-10	5.30	< 5.30	5.30 – 6.53	0							
		PROTOCOL AMPH STRUCS >10	5.30	< 5.30	5.30 – 6.53	0							
		PROTOCOL AMPH STRUCS TOTAL	5.30	< 5.30	5.30 – 6.53	0							

MW 7-7-04

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Air

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-LB11		PRIMARY STRUCTURES	7.57	< 7.57 U	7.57 - 9.33	0	2.5305	1050	10	385	0.1449	KM	6/16/04
		ASBESTOS STRUCTURES	7.57	< 7.57	7.57 - 9.33	0							
Lab Blank		ASBESTOS STRUCTURES > 5 µm	7.57	< 7.57	7.57 - 9.33	0							
		ASB. FIBERS & BUNDLES > 5 µm	7.57	< 7.57	7.57 - 9.33	0							
		PCM EQUIVALENT STRUCTURES	7.57	< 7.57	7.57 - 9.33	0							
		PCM EQUIVALENT FIBERS	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL ASB STRUCS 5-10	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL ASB STRUCS >10	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL ASB STRUCS TOTAL	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL CHRYS STRUCS 5-10	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL CHRYS STRUCS >10	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL CHRYS STRUCS TOTAL	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL AMPH STRUCS 5-10	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL AMPH STRUCS >10	7.57	< 7.57	7.57 - 9.33	0							
		PROTOCOL AMPH STRUCS TOTAL	7.57	< 7.57	7.57 - 9.33	0							

6-28-04 MW

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Air

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Detection Limit (struc/L)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm^2)	Area Analyzed (mm^2)	Analyst	Analysis Date
040356-LB12		PRIMARY STRUCTURES	10.59	< 10.59	10.59 – 13.07	0	3.5427	750	10	385	0.1449	KM	6/16/04
		ASBESTOS STRUCTURES	10.59	< 10.59	10.59 – 13.07	0							
Lab Blank		ASBESTOS STRUCTURES > 5 µm	10.59	< 10.59	10.59 – 13.07	0							
		ASB. FIBERS & BUNDLES > 5 µm	10.59	< 10.59	10.59 – 13.07	0							
		PCM EQUIVALENT STRUCTURES	10.59	< 10.59	10.59 – 13.07	0							
		PCM EQUIVALENT FIBERS	10.59	< 10.59	10.59 – 13.07	0							
		PROTOCOL ASB STRUCS 5-10	10.59	< 10.59	10.59 – 13.07	0							
		PROTOCOL ASB STRUCS >10	10.59	< 10.59	10.59 – 13.07	0							
		PROTOCOL ASB STRUCS TOTAL	10.59	< 10.59	10.59 – 13.07	0							
		PROTOCOL CHRYS STRUCS 5-10	10.59	< 10.59	10.59 – 13.07	0							
		PROTOCOL CHRYS STRUCS >10	10.59	< 10.59	10.59 – 13.07	0							
		PROTOCOL CHRYS STRUCS TOTAL	10.59	< 10.59	10.59 – 13.07	0							
		PROTOCOL AMPH STRUCS 5-10	10.59	< 10.59	10.59 – 13.07	0							
		PROTOCOL AMPH STRUCS >10	10.59	< 10.59	10.59 – 13.07	0							
		PROTOCOL AMPH STRUCS TOTAL	10.59	< 10.59	10.59 – 13.07	0							

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Filter

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Density (str/mm²)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
271506-PC-1		PRIMARY STRUCTURES	0	NA	NA – NA	0	NA	0	10	385	0.1449	KM	6/17/04
		ASBESTOS STRUCTURES	0	NA	NA – NA	0							
Lot Blank		ASBESTOS STRUCTURES > 5 µm	0	NA	NA – NA	0							
		ASB. FIBERS & BUNDLES > 5 µm	0	NA	NA – NA	0							
		PCM EQUIVALENT STRUCTURES	0	NA	NA – NA	0							
		PCM EQUIVALENT FIBERS	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS TOTAL	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS TOTAL	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS TOTAL	0	NA	NA – NA	0							

* Note – For samples with zero volumes, a value in structures per liter cannot be calculated

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Filter

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Density (str/mm²)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
271506-PC-2		PRIMARY STRUCTURES	0	NA	NA – NA	0	NA	0	10	385	0.1449	KM	6/17/04
		ASBESTOS STRUCTURES	0	NA	NA – NA	0							
Lot Blank		ASBESTOS STRUCTURES > 5 µm	0	NA	NA – NA	0							
		ASB. FIBERS & BUNDLES > 5 µm	0	NA	NA – NA	0							
		PCM EQUIVALENT STRUCTURES	0	NA	NA – NA	0							
		PCM EQUIVALENT FIBERS	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS TOTAL	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS TOTAL	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS TOTAL	0	NA	NA – NA	0							

* Note – For samples with zero volumes, a value in structures per liter cannot be calculated

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Filter

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Density (str/mm²)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
285096-PC-1		PRIMARY STRUCTURES	0	NA	NA – NA	0	NA	0	10	385	0.1449	KM	6/17/04
		ASBESTOS STRUCTURES	0	NA	NA – NA	0							
Lot Blank		ASBESTOS STRUCTURES > 5 µm	0	NA	NA – NA	0							
		ASB. FIBERS & BUNDLES > 5 µm	0	NA	NA – NA	0							
		PCM EQUIVALENT STRUCTURES	0	NA	NA – NA	0							
		PCM EQUIVALENT FIBERS	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS TOTAL	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS TOTAL	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS TOTAL	0	NA	NA – NA	0							

6-28-04

* Note – For samples with zero volumes, a value in structures per liter cannot be calculated

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Filter

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Density (str/mm²)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
285096-PC-2		PRIMARY STRUCTURES	0	NA	NA – NA	0	NA	0	10	385	0.1449	KM	6/17/04
		ASBESTOS STRUCTURES	0	NA	NA – NA	0							
Lot Blank		ASBESTOS STRUCTURES > 5 µm	0	NA	NA – NA	0							
		ASB. FIBERS & BUNDLES > 5 µm	0	NA	NA – NA	0							
		PCM EQUIVALENT STRUCTURES	0	NA	NA – NA	0							
		PCM EQUIVALENT FIBERS	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS TOTAL	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS TOTAL	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS TOTAL	0	NA	NA – NA	0							

* Note – For samples with zero volumes, a value in structures per liter cannot be calculated

The average filter density for PC lot 285096 = 0 s/mm²

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Filter

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Density (str/mm²)	Concen-tration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
295549-MCE-1		PRIMARY STRUCTURES	0	NA	NA – NA	0	NA	0	10	385	0.1449	KM	6/17/04
		ASBESTOS STRUCTURES	0	NA	NA – NA	0							
		ASBESTOS STRUCTURES > 5 µm	0	NA	NA – NA	0							
Lot Blank		ASB. FIBERS & BUNDLES > 5 µm	0	NA	NA – NA	0							
		PCM EQUIVALENT STRUCTURES	0	NA	NA – NA	0							
		PCM EQUIVALENT FIBERS	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS TOTAL	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS TOTAL	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS TOTAL	0	NA	NA – NA	0							

* Note – For samples with zero volumes, a value in structures per liter cannot be calculated

Lab/Cor, Inc.

A Professional Service Corporation in the Northwest

Report Number: 040356 *Report Date:* June 28, 2004

Client Information	
Project Name:	Klamath Falls
Project No.:	001281.0283.01RS; TDD 02-07-0011
P. O. No.:	100008-S10
Sample Type:	Filter

Tracking Information		
Login:	Jan 2, 2004	*By:* RS
Prep:	Apr 9, 2004	*By:* CJ
Verified:	Apr 9, 2004	*By:* CJ
Reviewed:	Jun 17, 2004	*By:* JH
Final Review:	Jun 28, 2004	*By:* JH

Analysis Information	
Analysis Type:	EPA
Reference No.:	Modified Elutriator
Min. Asp Ratio:	3:1(PCM), 5:1(Other) 10:1 (Protocol)
Min. Length:	5.0 µm (PCM, Protocol) 0.5 µm (Other)
Req. Width:	0.2 - 3.0 µm (PCM) < 0.5 µm(Protocol)

FINAL TABLE

Transmission Electron Microscopy – ISO 10312 – Modified Elutriator Analysis

Lab/Cor Sample No.	Client Sample No.	Structure Type	Density (str/mm²)	Concentration (struc/L)	95% Confidence Interval (struc/L)	Struc. Count	Analytical Sens. (struc/L)	Volume (L)	Number of Grid Openings	Filter Area (mm²)	Area Analyzed (mm²)	Analyst	Analysis Date
295549-MCE-2		PRIMARY STRUCTURES	0	NA	NA – NA	0	NA	0	10	385	0.1449	KM	6/17/04
		ASBESTOS STRUCTURES	0	NA	NA – NA	0							
		ASBESTOS STRUCTURES > 5 µm	0	NA	NA – NA	0							
Lot Blank		ASB. FIBERS & BUNDLES > 5 µm	0	NA	NA – NA	0							
		PCM EQUIVALENT STRUCTURES	0	NA	NA – NA	0							
		PCM EQUIVALENT FIBERS	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL ASB STRUCS TOTAL	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL CHRYS STRUCS TOTAL	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS 5-10	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS >10	0	NA	NA – NA	0							
		PROTOCOL AMPH STRUCS TOTAL	0	NA	NA – NA	0							

6-28-04

* Note – For samples with zero volumes, a value in structures per liter cannot be calculated

The average filter density for MCE lot 295549 = 0 s/mm²

APPENDIX C
AIR SAMPLING SHEETS

Air Sampling Form

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 7/20/2004

Address: North Ridge Estates

Primary Calibration: DryCal DC-Lite

Temp/Hum/wir (Start) (End)

Secondary Calibration:

Sampler(s): (b) (6)

Method: ISO 10312

Comments/ Observations:	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
	4070001	CP2-A	14:52	15:33	41	1.54	1.63	1.59	64.99	(b) (6)
Submitted	4070002	CP2-B	14:52	15:55	63	1.52	1.56	1.54	97.02	(b) (6)
Pump Faulted	4070003	CP2-C	14:52	15:19	27	1.50	NA	#VALUE!	#VALUE!	Fault at 27 minutes
Submitted	4070004	CP3-A	16:30	17:10	40	1.51	1.43	1.47	58.80	(b) (6)
Duplicate	4070005	CP3-B	16:30	17:10	40	1.50	1.49	1.50	59.80	(b) (6)
Submitted	4070006	CP4-A	17:27	18:08	41	1.52	1.46	1.49	61.09	(b) (6)
	4070007	CP4-B	17:27	18:08	41	1.50	1.48	1.49	61.09	(b) (6)

Comments/ Observations:

Air Sampling Form

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 7/21/2004

Address: North Ridge Estates

Primary Calibration: DryCal DC-Lite

Temp/Hum/wir (Start) (End)

Secondary Calibration:

Sampler(s): (b) (6)

Method: ISO 10312

Comments/ Observations:	EPA Sample #:	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
	4070008	WW1-A	8:53	9:53	60	1.52	1.51	1.51	90.75	(b) (6)
	4070009	WW1-B	8:53	10:08	75	1.52	1.52	1.52	114.00	(b) (6)
	4070010	WW1-C	8:53	9:40	47	1.52	1.55	1.54	72.15	Fault at 27 minutes
	4070011	WW2-A	11:02	12:10	68	1.50	1.53	1.52	103.02	(b) (6)
Submitted	4070012	WW2-B	11:02	12:10	68	1.52	1.57	1.55	105.06	(b) (6)
Duplicate	4070013	WW3-A	14:03	15:14	71	1.51	1.50	1.50	106.71	(b) (6)
Submitted	4070014	WW3-B	14:03	15:14	71	1.53	1.63	1.58	112.11	(b) (6)
Submitted	4070015	WW4-A	15:38	16:46	68	1.52	1.53	1.53	103.70	(b) (6)
	4070016	WW4-B	15:38	16:46	68	1.50	1.54	1.52	103.36	(b) (6)

Comments/ Observations:

Air Sampling Form

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 7/22/2004

Address: North Ridge Estates

Temp/Hum/wir (Start) (End)

Sampler(s): (b) (6)

Primary Calibration: DryCal DC-Lite

Secondary Calibration:

Method: ISO 10312

Comments/ Observations:	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
Duplicate	4070017	RT1-A	8:40	9:34	54	1.52	1.49	1.51	81.27	(b) (6)
Submitted	4070018	RT1-B	8:40	9:34	54	1.52	1.54	1.53	82.62	(b) (6)
Submitted	4070019	RT2-A	10:28	11:22	54	1.50	1.51	1.51	81.27	Fault at 27 minutes
	4070020	RT2-B	10:28	11:22	54	1.51	1.57	1.54	83.16	(b) (6)
Submitted	4070021	RT3-A	13:19	14:13	54	1.52	1.55	1.54	82.89	(b) (6)
	4070022	RT3-B	13:19	13:35	16	1.50	1.59	1.55	24.72	(b) (6)

Comments/ Observations:

Air Sampling Form A

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 8/20/2003

Address: North Ridge Estates

Temp/Hum/wind (Start) 16.8,64,0.6 (End) 29,32,2.7

Sampler(s): (b) (6)

Primary Calibration: DryCal DC-Lite

Secondary Calibration: Rotameter (SKC West) A Unit

Method: EPA Modified II TEM

EPA Pump ID	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
H5	"03080014	J067749	1045	1415	210	9.00	9.00	9.51	1997.67	Warehouse
H6	"03080015	J067747	1115	1425	190	9.00	9.00	9.51	1807.41	(b) (6)
H7	"03080016	J067757	1125	1440	195	9.00	9.00	9.51	1854.98	(b) (6)
H8	"03080017	J067745	1135	1450	195	9.00	8.80	9.40	1833.47	(b) (6)

Comments/ Observations:

Air Sampling Form

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 8/21/2003

Address: Northridge

Temp/Hum/V (Start) 14.8,54,0.4 (End) 13.8,101,0.1

Sampler(s): (b) (6)

Primary Calibration: DryCal DC-Lite

Secondary Calibration:

Method:

EPA Pump ID	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
H1	"03080010	J067746	7:20	14:50	450	1.999	2.026	2.01	905.63	3434 Outdoor (b) (6)
H2	"03080011	J067750	7:45	14:45	420	1.922	2.494	2.21	927.36	3434 Indoor (b) (6)
H3	"03080012	J067742	7:48	15:00	432	2.044	2.140	2.09	903.74	3433 Outdoor (b) (6)
H4	"03080013	J067765	7:55	15:05	430	1.970	2.154	2.06	886.66	3433 Indoor (b) (6)
					0			0.00	0.00	
					0			0.00	0.00	

Comments/ Observations: Continuation from sampling conducted on 8/20/03. 3rd phase of the 24 hour sampling protocol at @ 2 L

Air Sampling Form

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 8/26/2003

Address: Northridge

Primary Calibration: DryCal DC-Lite

Temp/Hum/wir (Start) (End)

Secondary Calibration:

Sampler(s): (b) (6)

Method:

EPA Pump ID	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
LV8	3080042	J067768	8:20	16:25	485	1.943	1.943	1.94	942.36	3930 INSIDE (b) (6)
LV7 (->LV5->LV10)	3080043	J068017	8:25	8:28	3	1.906	1.906	1.91	5.72	3930 OUTSIDE (b) (6)
LV4 (->H8)	3080044	J067775	8:40	13:32	292	2.008	2.008	2.01	586.34	3560 INSIDE (b) (6)
LV2	3080045	J067774	8:55	17:56	541	2.059	2.059	2.06	1113.92	3560 OUTSIDE (b) (6)
LV5 (->LV10)	3080043	J068017	11:10	13:22	132	1.980	1.980	1.98	261.36	(b) (6) (Outside)
LV10	3080043	J068017	14:20	17:40	200	2.029	1.852	1.94	388.10	(b) (6) (Outside)
H8	3080044	J067775	14:26	17:50	204	2.060	2.118	2.09	426.16	(b) (6) (Inside)

Comments/ Observations:

Total time for cassette number J068017 was 335 minutes and total volume was 655.18 liters at 3930 Outside (b) (6)

Total time for cassette number J067770 was 496 minutes and 1012.5 liters at Inside (b) (6)

LV8 stopped at some time after the last check at 16:25 and before the final pickup at 17:40, therefore, 16:25 was selected as the final time.

LV7 stopped after 3 minutes and was replaced with LV5, which stopped after 132 minutes and was then replaced with LV10, which operated until picked

Air Sampling Form B

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 8/27/2003

Address: Northridge

Temp/Hum/wind (Start) (End)

Sampler(s): (b) (6)

Primary Calibration: DryCal DC-Lite

Secondary Calibration Rotameter (SKC West) B Unit

Method: Modified EPA II

EPA Pump ID	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
H7	3080030	J067784	13:35	16:40	185	9.00	9.00	9.32	1724.77	(b) (6)
H5	3080031	J067786	13:45	16:50	185	9.00	8.50	9.06	1676.41	(b) (6)
H2	3080032	J067770	14:00	17:00	180	9.00	9.00	9.32	1678.16	(b) (6)
H1	3080033	J067776	14:05	17:10	185	9.00	9.00	9.32	1724.77	(b) (6)
H4	3080034	J067782	14:08	17:15	187	9.00	9.00	9.32	1743.42	(b) (6)
H3	3080035	J067772	14:15	17:25	190	9.00	9.00	9.32	1771.39	Warehouse

Comments/ Observations:

Air Sampling Form A

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 8/28/2003

Address: North Ridge Estates

Temp/Hum/win (Start) 22.8, 46, 1.((End) 26.6, 26, 3.4

Sampler(s): (b) (6)

Primary Calibration: DryCal DC-Lite

Secondary Calibration: Rotameter (SKC West) A Unit

Method: Modified EPA II

EPA Pump ID	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
H5	3080036	J067797	8:50	14:35	345.00	9.00	8.75	9.37	3234.31	Warehouse
H3	3080037	J067787	9:03	15:10	367.00	9.00	9.00	9.51	3491.16	(b) (6)
H7	3080038	J067779	9:11	14:44	333.00	9.00	9.00	9.51	3167.73	(b) (6)
H4	3080039	J067783	9:18	14:50	332.00	9.00	8.75	9.37	3112.44	(b) (6)
H2	3080040	J067792	9:25	14:56	331.00	9.00	9.00	9.51	3148.70	(b) (6)
H1	3080041	J067777	9:35	15:05	330.00	9.00	8.75	9.37	3093.69	(b) (6)

Comments/ Observations:

Air Sampling Form B

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 9/3/2003

Address:

Temp/Hum/wind (Start) 18.9/54/3.5 (End) 32.2/19/3.5

Sampler(s): (b) (6)

Primary Calibration: DryCal DC-Lite

Secondary Calibration Rotameter (SKC West) B Unit

Method: EPA Method II

EPA Pump ID	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
H5	03090001	J068213	8:25	14:45	380	9.00	8.75	9.19	3493.10	Warehouse
H3	03090002	J068214	8:40	14:30	350	9.00	8.75	9.19	3217.33	(b) (6)
H4	03090003	J068275	8:50	15:05	375	9.00	8.75	9.19	3447.14	(b) (6)
H7	03090004	J067803	8:55	14:55	360	9.00	9.00	9.32	3356.32	(b) (6)
H1	03090005	J067780	9:08	15:10	362	9.00	8.75	9.19	3327.64	(b) (6)
H2	03090006	J068023	9:15	15:20	365	9.00	8.75	9.19	3355.22	(b) (6)

Comments/ Observations:

Air Sampling Form

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 9/4/2003

Address:

Temp/Hum/wir (Start) (End)

Sampler(s): (b) (6)

Primary Calibration: DryCal DC-Lite

Secondary Calibration:

Method: ISO 10312

EPA Pump ID	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
LV9		J068148	7:32	11:30	238	2.024	2.024	2.02	481.71	(b) (6) - Inside
LV5		J067778	7:31	9:38	127	2.017	2.017	2.02	256.16	(b) (6) Outside
LV2		J068160	7:26	17:16	590	2.054	2.054	2.05	1211.86	(b) (6) - Inside
LV11		J067771	7:21	16:00	519	2.065	2.065	2.07	1071.74	(b) (6) - Outside
LV13		J067778	10:00	17:30	450	2.137	2.016	2.08	934.43	(b) (6) - Outside
LV15		J068148	14:55	15:17	22	2.092	2.092	2.09	46.02	(b) (6) - Inside

Comments/ Observations:

Air Sampling Form

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 9/5/2003

Address:

Temp/Hum/wir (Start) (End)

Sampler(s): (b) (6)

Primary Calibration: DryCal DC-Lite

Secondary Calibration:

Method: ISO 10312

EPA Pump ID	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
LV2	03090019	J068148	7:43	13:17	334	2.035	2.122	2.08	694.22	(b) (6) - Inside
LV12	03090020	J067778	7:40	13:15	335	2.014	2.241	2.13	712.71	(b) (6) - Outside
LV11	03090021	J068160	8:00	13:27	327	2.082	2.160	2.12	693.57	(b) (6) - Inside
LV13	03090022	J067771	7:55	13:29	334	2.023	2.045	2.03	679.36	(b) (6) - Outside
					0			0.00	0.00	
					0			0.00	0.00	

Comments/ Observations:

Air Sampling Form A

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 9/18/2003

Address: North Ridge Estates

Temp/Hum/win (Start) (End)

Sampler(s): (b) (6)

Primary Calibration: DryCal DC-Lite

Secondary Calibration: Rotameter (SKC West) A Unit

Method: EPA Method II

EPA Pump ID	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
H3	3090031	J068299	7:55	13:45	350.00	9.00	9.00	9.51	3329.45	Warehouse
H1	3090032	J068309	8:05	13:54	349.00	9.00	9.00	9.51	3319.93	(b) (6)
H2	3090033	J068289	8:10	14:00	350.00	9.00	9.00	9.51	3329.45	(b) (6)
H6	3090034	J068236	8:18	14:05	347.00	9.00	8.75	9.37	3253.06	(b) (6)
H7	3090035	J068224	8:24	13:36	312.00	8.50	7.00	8.13	2537.75	(b) (6)
H4	3090036	J068295	8:34	14:10	336.00	9.00	9.00	9.51	3196.27	(b) (6)
H8-1	3090037	J068317	8:45	11:22	157.00	9.00	9.50	9.79	1536.79	(b) (6) Hot Spot
H8-2	3090037	J068317	14:48	17:20	152.00	9.50	9.50	10.06	1529.77	(b) (6) Hot Spot

Comments/ Observations:

Air Sampling Form B

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 9/23/2003

Address:

Temp/Hum/wind (Start) (End)

Sampler(s): (b) (6)

Primary Calibration: DryCal DC-Lite

Secondary Calibration Rotameter (SKC West) B Unit

Method: EPA Method II

EPA Pump ID	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
H1	03090056	D700841	9:55	15:45	350	9.00	8.75	9.19	3217.33	Warehouse
H2	03090057	D700846	10:05	16:25	380	9.00	6.50	8.02	3046.02	(b) (6)
H3	03090058	J068315	10:15	16:30	375	9.00	9.00	9.32	3496.16	(b) (6)
H6	03090059	J068292	10:25	16:42	377	8.00	9.00	8.80	3317.68	(b) (6)
H4	03090060	D700845	10:35	16:48	373	9.00	9.00	9.32	3477.52	(b) (6)
H5	03090061	J068293	10:40	17:10	390	9.00	9.00	9.32	3636.01	(b) (6)

Comments/ Observations:

Air Sampling Form

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 9/30/2003

Address: North Ridge Estates

Temp/Hum/wir (Start) (End)

Sampler(s): (b) (6)

Primary Calibration: DryCal DC-Lite

Secondary Calibration:

Method: NIOSH 7400/7402

EPA Pump ID	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/-Personnel
LV-1	3100002	J067713	11:00	12:05	65	2.00	1.90	1.95	126.75	Soil Splitting Neg. Pressure Room
LV-1	same	same	14:45	16:50	125	1.90	1.90	1.90	237.50	Soil Splitting Neg. Pressure Room
					0			0.00	0.00	
					0			0.00	0.00	
					0			0.00	0.00	
					0			0.00	0.00	

Comments/ Observations:

Air Sampling Form A

MBK/Northridge Estates Site, Klamath Falls, OR

PAN/JOB # 001281.0293.01RS

Date: 10/2/2003

Address: North Ridge Estates

Temp/Hum/win (Start) (End)

Sampler(s): (b) (6)

Primary Calibration: DryCal DC-Lite

Secondary Calibration: Rotameter (SKC West) A Unit

Method: EPA Method II

EPA Pump ID	EPA Sample #	Cassette Number	Start Time	Stop Time	Total Min.	Start Flow Rate (L/min)	Stop Flow Rate (L/min)	Corrected Flow Rate	Total Volume (liters)	Location/ Personnel
H-1	3100005	J067723	8:30	13:30	300.00	8.00	8.00	8.41	2522.88	Outside Soil Prep. Neg. Air Area
					#VALUE!			-0.42	#VALUE!	
					#VALUE!			-0.42	#VALUE!	
					#VALUE!			-0.42	#VALUE!	
					#VALUE!			-0.42	#VALUE!	
					#VALUE!			-0.42	#VALUE!	

Comments/ Observations:

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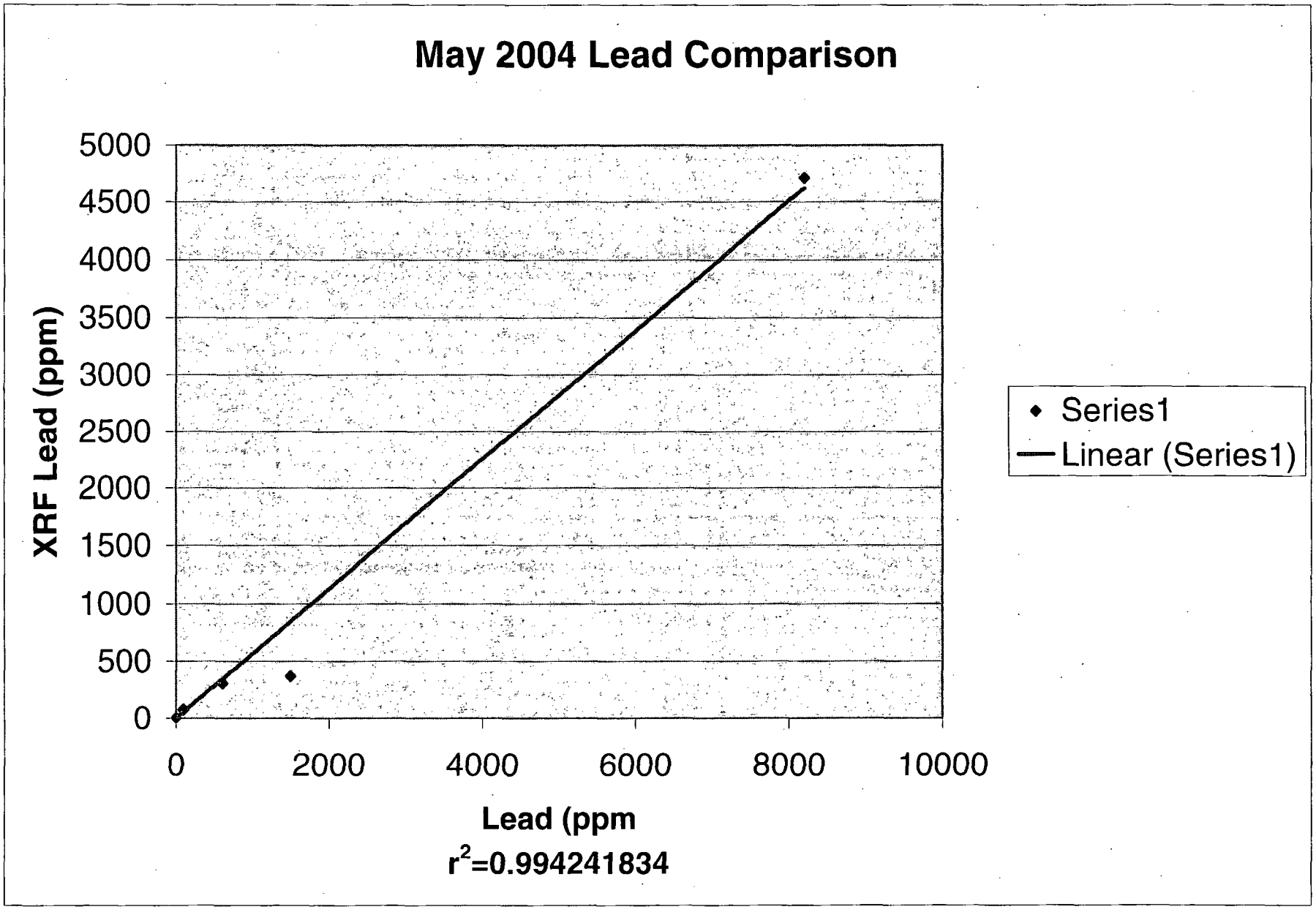
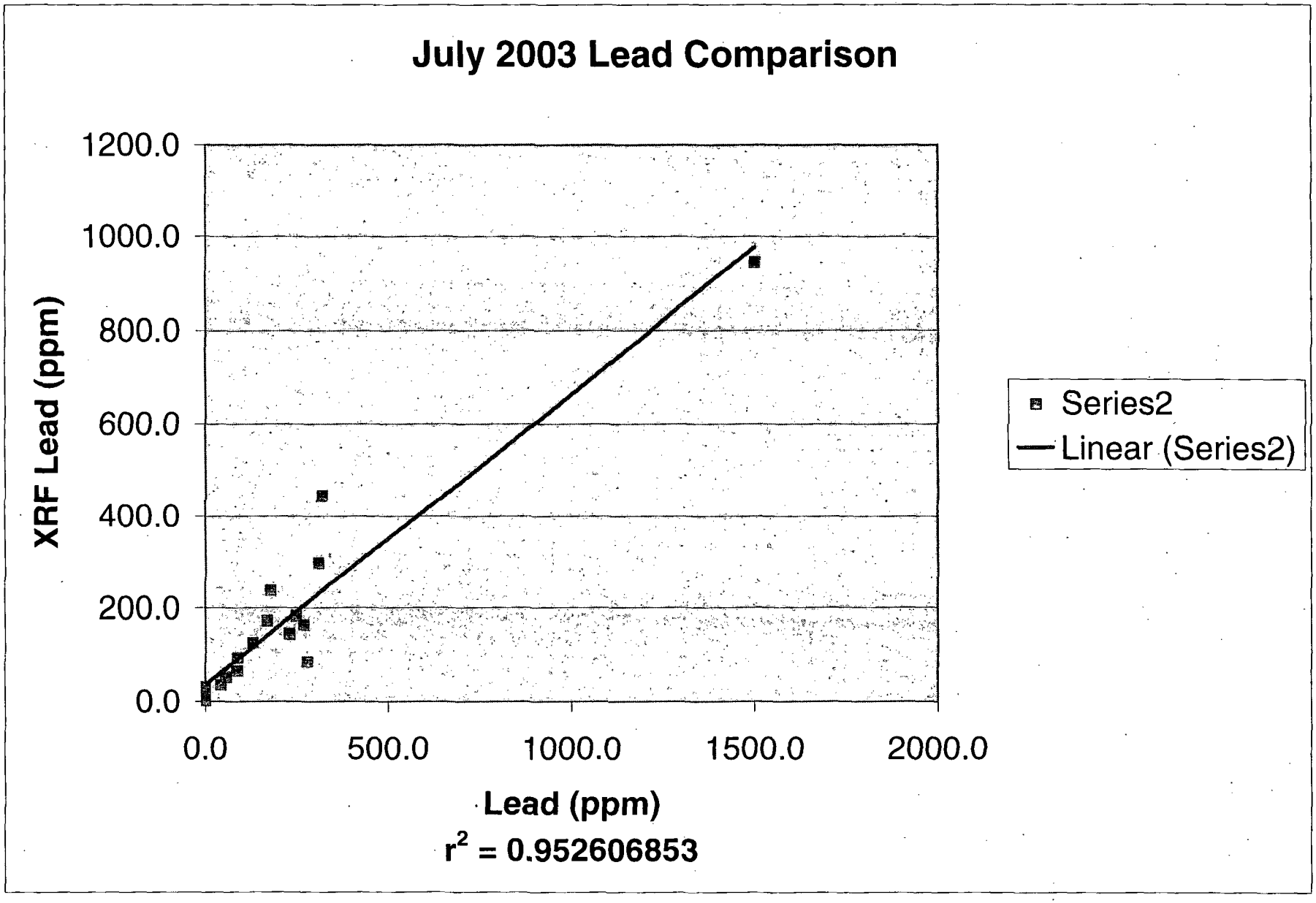
APPENDIX D
XRF FIELD SCREENING DATA


May 2004 Lead Comparison
XRF Lead (ppm)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
0
2000
4000
6000
8000
10000
Lead (ppm
r2=0.994241834
Series1
Linear (Series1)


July 2003 Lead Comparison
1200.0
1000.0
800.0
600.0
400.0
200.0
0.0
XRF Lead (ppm)
0.0
500.0
1000.0
1500.0
2000.0
Lead (ppm)
r2 = 0.952606853
Series2
Linear (Series2)